ABSTRACT OF THE

President's Address

ON

CANADA IN ITS MEDICAL ASPECTS.

Delivered at the Sixty-fifth Annual Meeting of the British Medical Association at Montreal, August–September, 1897,

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GENTLEMEN,—I rise to welcome you on behalf of the medical profession in Canada, and to thank you for the honour conferred on this city and country by your presence here to-day. Would that I could find suitable language in which to thank you also for the high honour you have done me in electing me to preside at this great meeting of the British Medical Association—an honour which is appreciated none the less by the consciousness that it is not a personal matter, but a compliment to Canadian medicine.

This meeting of the British Medical Association in Canada is an event which will serve still more to impress upon the memory of our people the year 1897, the year of the Diamond Jubilee of our beloved Sovereign, Queen Victoria. In no part of her vast empire—not even its very heart—did her subjects celebrate the great event with more enthusiastic loyalty and devotion than in Canada, especially in this province, the home of the French Canadians. We Canadians of both tongues love and honour our Queen. Long may she live. Deeply, too, have we appreciated here the splendid reception accorded in the old home to our Premier, the Right Hon. Sir Wilfrid Laurier, whose distinguished bearing and grace of manner eminently fitted him for the important part it was his peculiar privilege to play in the magnificent ceremonies of the Jubilee. A French Canadian, Sir Wilfrid Laurier's presence in England as the chosen representative of the Dominion was an object lesson to the empire and to the world in the harmony existing between the two nationalities which comprise the Canadian people. And here let me express, on behalf of every representative from the British Isles, and on behalf of every Canadian present, the genuine pleasure we feel in having among us on this memorable occasion so many of our brethren from the United States. This only proves the cosmopolitan character of our profession; this is only another recognition of the unity of medicine. Legislators may squabble, the air may be filled with wild alarms and war may appear imminent day by day, but our relations are not disturbed in the slightest degree; our interests are common—we are kinsmen in science; we go forward hand in hand, irrespective of race or creed or colour, having one intent only—the advancement of our noble profession, and through that the amelioration of the ills of mankind. It is my privilege also to welcome the representative of another Republic, La Belle France, to whose gifted men of science our profession is so greatly indebted. This gentleman, who bears the credentials of his Government and officially represents the great nation of which he is so bright an ornament, is known far and wide as the Professor of Physiology in the University of France, Dr. Charles Richet. In coming to Canada it cannot be said, nor will he feel, that he comes to a foreign country, for in the Province of Quebec he will find another France, with a delightful mingling of the old and the new—his own beautiful language spoken with all the grace and purity of the old *régime*. But we are further honoured by the presence among us to-day of the most illustrious surgeon of our generation, Lord Lister, who stands for the rise and zenith of modern surgery. It has been well and truly said that as long as surgery is scientifically discussed Lord Lister's name cannot fail to be mentioned. We have only to compare the surgery of the time before 1873 with the surgery as practised to-day to appreciate all that he has done for the science. The remark is frequently heard that Lord Lister has made operative proceedings possible which only twenty-five years ago would have been considered criminal. Undoubtedly, the most powerful agency in the development of surgery in this century has been the introduction of the antiseptic and aseptic methods of wound treatment which he initiated. It is due to his efforts that surgical wards have been freed from pyæmia, and the mortality of lying-in hospitals reduced to the limits of normal parturition. For the past twenty years honours many and great have been showered upon him. Oxford, Cambridge, Edinburgh, Glasgow, Dublin, Toronto, and now McGill have vied with one another in hastening to do him homage. Our Sovereign, in conferring upon him the richly deserved distinctions which he bears with such gracious dignity, only gives expression to the general feeling of his countrymen throughout the empire and his admirers the world over. We are glad, I say, to have him with us to-day; his presence is an intellectual stimulus and an energising force in our deliberations.

It is, I understand, an unwritten law of the Association that the President shall not in his address encroach upon the topics which belong by right and usage to the readers of the main addresses and to the presidents of the various sections. I have observed that the majority of my predecessors have contented themselves with discoursing on objects and circumstances of local interest; they describe the town or city in which the meeting is held, or perhaps they discuss questions of a public character. In the absence of an address on Public Medicine others have taken that for their theme. It has been my unhappy lot to select and consider subjects only to find in quick succession that they had already been appropriated, either by the Association *Journal*, in describing so fully Montreal and its surroundings, or by the editors of the official guide or souvenir, who have given a very comprehensive description of Canada, or by some of the gentlemen who preside over the sections, who, I have been led to understand, purpose discussing questions of medical education. I fear, therefore, that what I have to say this afternoon will fall far short of the brilliant presidential addresses which members of this Association have been accustomed to in other years. Indeed, when I look at the long roll of eminent men who have been my predecessors in this high office—men oftentimes distinguished for their literary gifts as well as for their exalted position in the medical world—I confess that I marvel at my temerity in accepting so great a responsibility. In speaking of my predecessors allow me especially to refer to the retiring President, Dr. Henry Barnes, whose courteous and kindly manners, together with his sterling ability, make us all glad to know that his election as a Vice-President for life ensures his continued official and active connexion with the Association. Here might I also be permitted to say how greatly I appreciated the many kindnesses and courtesies extended to me by the President (Dr. Saundby) and members of the Council when in London last winter making the initial arrangements for this meeting. With respect to the other addresses which it is customary to deliver on these occasions, medicine will be dealt with by one whose reputation is now world-wide—by our Osler—whose professional education was in great part received in this city, and who, I am happy to say, is still a Canadian. How he has been able to escape the alien law is a puzzle to many; but he has really only been borrowed for a time; he is merely passing through the United States in bond. We are only waiting until we can find a place large enough to hold him, when we shall coax him back. Sorry am I that his old colleagues in his own department of medicine—Howard and Ross and Macdonnell—are not here to share with us the genuine pleasure we experience in finding him in the position which he occupies to-day. You will hear addresses in Surgery and Public Medicine delivered by gentlemen who have devoted their lives to their special subjects. Before proceeding, however, with the remnants of subjects which my *confrères* have been graciously pleased to leave for my share on this occasion, allow me first, for the benefit of those who may not be acquainted with the work of the British Medical Association, to give in as few words as possible a general idea of its organisation.

[Dr. Roddick then gave an account of the foundation and objects of the British Medical Association and continued:]

The Canadian people, and especially the citizens of Montreal, are highly gratified that Canada should be the first country without the United Kingdom to be honoured by a meeting of the British Medical Association; and while they hope that it will not be long before the honour is repeated, our people are not insensible to the claims of other portions of the empire, more especially the great island continent of the Antipodes, Australia. Either Sydney or Melbourne would be a fit meeting place for such an imperial organisation as this; and should the next meeting which is held outside the British Isles be held under the Southern

Cross our hospitable Australian kinsmen may count on a large contingent from the Dominion of Canada.

CLIMATIC CONDITIONS OF CANADA.

As it may be presumed that to the majority of those present here to-day Canada is almost an unknown country, I have thought that among one or two other subjects a few remarks on the atmospheric conditions and health resorts of the Dominion would not be without interest. The best way to understand the atmospheric conditions of a country is first to understand its physical features. The physical features of Canada are very remarkable. Broadly speaking, the country is separable by climatic and physical conditions into three great regions—the Eastern, Central, and Western Regions—which approximately run north and south in the general trend of the continent. The eastern region, which includes the older provinces of the Dominion—Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island, besides the great fur territory stretching far to the east and north-east of James's Bay—extends from the Atlantic to Lake Superior and the chain of Great Lakes running in a northerly direction from Lake Superior to the Arctic Ocean. Between this great chain of lakes and the eastern base of the Rocky Mountains is the immense interior continental plain which constitutes the central region of Canada, its southern part consisting of open prairie, its northern part of forest lands. The third part of the division, the western region, is naturally very well defined, consisting of the wide and wild mountainous border of the continent on the Pacific side—the Rocky Selkirk and Gold Ranges, which form the great Cordilleran belt, whose average width in Canada is 400 miles. Eastern Canada, our first and largest region, is geologically of very ancient origin. Here geologists have placed the nucleus of the continent—the broad belt of crystalline rock of great antiquity called the Laurentian Plateau. This region is remarkable for its immense number of lakes, large and small, and for its irregular and winding rivers with numerous rapids and falls. Between the Laurentian Plateau on the north and the Appalachian mountain system on the south lies the great valley of the River St. Lawrence. The basin of this majestic river covers 530,000 square miles, of which 460,000 are in Canada. Above the city of Quebec the base of the Laurentian highlands and the ridges of the Appalachian system diverge, and the mighty river flows through an extensive low country of notable fertility, in earlier days the great granary of Canada. It may be added *en passant* that Mount Royal, which gives such distinction and character to our city, represents the basal remnants of a volcanic vent of great antiquity. From its picturesque summit may be seen similar abrupt elevations far off towards the east and south—Montarville, Beloeil, or St. Hilaire, Mount Rougemont, with Mount Yamaska behind it, Mount Shefford, and the conical Mount Johnson or Monnoir. The Adirondacks are visible in the distance to the south-west, and the Green Mountains to the south-east.

Included in the Eastern Region is one of the most remarkable geographical features of Canada—the great fresh water lakes or inland seas, Superior, Huron, Erie, and Ontario, which form the perennial reservoirs of the St. Lawrence. Together with Lake Michigan, which is wholly in the United States, they have an aggregate area of 94,750 square miles, an area larger than that of Great Britain. They stand at four distinct levels above the sea—Ontario 247 feet, Erie 573 feet, Huron 581 feet, and Superior 602 feet. The Niagara Falls, the greatest and most impressive of the natural wonders of our continent, are the direct result of the great height of Lake Erie above Lake Ontario, the river connecting the lakes being only a few miles long. Besides the St. Lawrence, Eastern Canada has several other great rivers, notably the Ottawa, which has a course of 1800 miles and a basin of nearly 1,000,000 square miles, the St. Maurice, the Saguenay, and the St. John, the glory of New Brunswick, which, together with the Atlantic Slope, has a basin of 50,214 square miles. The Central and Western Regions also have their abundant share of large and small lakes and great rivers, an account of which would fill reams of paper. It should be noted that the Canadian rivers and lakes collectively cover an area of 130,000 square miles, and contain one-half the fresh water on the globe. I draw special attention to this series of vast lakes and rivers because it exerts an immense and beneficent influence on the climate of Canada. It preserves the mean temperature while the land experiences the extremes. In summer the water is cooler and in winter warmer than the land conditions, which tend to modify the differences and to favour uniformity of climate. Without these waters, too, we should have vast regions of comparatively little value, as in Africa, Asia, and in the United States west of the Mississippi river, where large tracts of land far from water are nothing more than arid wastes. Our climate is more uniform than that of Europe; the meteorological differences are produced by position alone, but Europe has a higher mean temperature, and the extremes there are not so marked or so wide apart as in Canada. Owing to the great area of Canada, extending over 20° of latitude, or from the latitude of Constantinople to that of North Cape in Norway, the range of temperature is naturally very wide. The southern boundary stretches over fully 4000 miles, along which line we find that Southern Ontario has the latitude of Central Italy, Nova Scotia that of Northern Italy, Manitoba and Vancouver that of Central Germany. Speaking generally, the Canadian summer may be stated at from 60° to 70° F. From its vast and varied extent Canada may be said to be the possessor of several climates. Taking Solly's classification as to position, we have in Canada all the three land climates—the low, the medium, and the high. The first has an elevation up to 2500 ft., the second up to 4500, and the third from 4500 upwards. As to temperature and humidity, Canada comes under the category of "cold, moderate, and dry."

HEALTH RESORTS.

In the eastern region of the Dominion there are at least two localities which have been proved to possess many of the qualities which constitute a climate for convalescents from fevers and other depressing diseases, and also for phthisis in the incipient stage. I refer to the region in the Province of Quebec among the Laurentians north of this city, of which the village of Ste. Agathe is the centre, the other being the Muskoka District, in Ontario. The first has been called the Adirondacks of Canada, having many of the features, physical and climatic, of that now celebrated plateau situated in the north-eastern part of New York State, and stretching from the Mohawk Valley in the south 150 miles north, almost to the frontier line. The average elevation of the two regions is about the same, being from 1600 to 1800 feet. The immense pine forests, together with the moderate temperature, constitute the chief characteristics of the Canadian district from the medical point of view. No very systematic meteorological observations have yet been taken of the Ste. Agathe region, but the indications will probably prove to be very similar to those of the American resort. It is in contemplation to erect a sanatorium on Trembling Mountain, overlooking the village of Ste. Agathe, which will doubtless in time rival the Adirondack Cottage Sanatorium near Saranac Lake Village, which has proved such a marked success under the able management of Dr. E. L. Trudeau. The elevation of the sanatorium will be 2500 feet, thus having an altitude of nearly 900 feet greater than the establishment at Saranac. It is the intention of the Quebec Government to set apart a sufficient portion of the Crown lands to form a natural park in that part of the province. It will be called the Trembling Mountain Park, and will cover an area of 100,000 acres of land, in which are several beautiful lakes. Within the boundaries of this park the sanatorium will be constructed. There is therefore no reason to doubt that we will shortly have within our own lines a health resort possessing all the advantages of the Adirondacks region, and capable of affecting for good the same class of patients now so decidedly benefited by a residence in those mountains.

One hundred miles north of Toronto, in the highlands of Ontario, is the Muskoka Lake region, an area of about 10,000 square miles, perhaps the most picturesque portion of the whole province. Within this district, which has a mean altitude above the sea of about 800 ft. (200 ft. above Lake Huron), there are nearly a thousand lakes and ponds, connected by innumerable streams. The chief lakes are Muskoka, Rosseau, and Joseph. These contain about 400 islands. It is a region abounding in pine forests; the climate is dry, and the air pure and invigorating. The Muskoka region has been found undoubtedly to possess remarkable climatic advantages for those with phthisical tendencies. The death-rate from phthisis in this section of Ontario is proved to be less than one-tenth the rate which obtains in other parts of the province. At Gravenhurst the Muskoka Cottage Sanatorium for the cure of incipient phthisis has recently been founded, under the best auspices,

with accommodation for forty patients. The present sanatorium consists of a large and well-planned main building, surrounded within easy distance by a number of small cottages. The grounds, which embrace seventy-five acres, are situated on Lake Muskoka. Pine forests and rocky ridges protect the buildings on the north and west sides, whence come the colder winds in winter. Like the Adirondacks Sanatorium, the intention is to occupy it all the year round. The progress of this institution, at present in the experimental stage, will be watched with much interest.

In the central region of Canada, that section of the north-west territories known as Southern Alberta—the home of the cowboy—has much to recommend it as a health resort. This strip of prairie and hill country is bounded on the north by the Canadian Pacific Railway and on the south by the international boundary line: its eastern boundary extends as far as Medicine Hat; its western boundary to the summit line of the Rockies and British Columbia, comprising in all an area of about 20,000 square miles. The plain here has an elevation above sea level of 2 700 ft., which gradually increases up to the entrance of the Crow's Nest Pass, where the elevation is 4500 ft. Calgary, the capital of Alberta, is itself 3500 ft. above sea level. With this gradual incline from a low to a high level altitude the patient can choose the locality which suits his particular case. In a long experience Kennedy knew of only two cases of phthisis originating in that country: one of acute tuberculosis with a strong hereditary taint, which proved fatal; the other, of the ordinary type, recovered without leaving the place. He claims for the climate of Southern Alberta a dry aseptic atmosphere and a dry soil, the greatest possible number of sunshiny days (90 per cent.), with cool nights. Patients can live there all the year round, and, with the exception of an occasional snowstorm, which may cover the prairie to a varying depth, nothing need interfere with their practically living in the saddle. The so-called Chinook wind has a remarkable influence over all this western section of Canada. It is a warm wind, which blows with varying intensity from west to south-west. McCaul, who describes it very graphically, speaks of its approach being heralded by the massing of dark clouds above the mountain tops, and a distinct wailing and rumbling from the passes and gorges. Its effect in winter is little short of miraculous. When the real Chinook blows the temperature often rises in a few hours from 20° below to 40° above zero. The snow which in the morning may have been a foot deep disappears, and before night everything is dripping; but in the space of a single day all the water is lapped up by the thirsty wind, and the prairie is so dry that a horse's hoof hardly makes an impression. The cases which have been most especially benefited by Alberta's climate are pulmonary tuberculosis in the earliest stage, although neurasthenics and anæmic women are likewise favourably affected to a marked degree. It is well known that delicate lads sent from the British Isles to this section of the north-west to work on the cattle ranches become in a year or two healthy and vigorous men, and are scarcely recognised on their return. Still farther west, and nearly midway between Calgary and the Pacific Coast, is the beautiful valley of Kamloops, another all-the-year-round resort which has much to commend it to those suffering from many forms of tuberculous disease. This picturesque valley, which lies between the Rocky Mountains and the Cascade Range, has a low altitude climate of 1100 ft., but is exceeding dry, showing an annual rainfall of only 11·05 inches, with an average of about seventy-five rainy days in the year. The rain soon disappears, the soil being light and gravelly. In this region we have an illustration of the local variability of climate recently pointed out by Bryce, who, in referring to the two not very distant localities of Vancouver and Kamloops, showed that whereas the former has an annual rainfall of 35 inches, the latter records but 11 inches and a decimal. The mean annual temperature of the valley of Kamloops is 46·03° F., the annual range being only 22·8°. The tuberculous patients who appear to be most benefited by a residence in Kamloops are those in whom there is a tendency to chronic congestion. Cases of bronchitis are likewise said to do well there. The climate can also be recommended for phthisical patients where cardiac disease exists as a complication.

That Canada is an exceptionally healthful country is the general testimony of the army and navy surgeons who have been stationed in Canada with the different regiments from the time of the conquest to the present day. Crawford, who was attached to one of the regiments stationed in Montreal many years ago, and who subsequently left the army and practised in this city, published elaborate and carefully-collected statistics to prove that few portions of the British Empire have a climate equal to that of Canada. In fact, his statistics prove conclusively that out of every 1000 of the troops stationed at the various garrisons throughout the empire, the percentage constantly ineffective from sickness was smaller in this country by 7 per cent. than at Gibraltar, which was then taken as the type. I think it can be satisfactorily proved that Canada is expressly fitted to develop a hardy race capable of great endurance. The races of the British Isles and the French race have certainly not degenerated here. Hingston proved this very conclusively some years ago by observations made upon the medical students attending the various schools in this city. He found that the lumbar strength of the British Canadian of the third generation exceeded by 20 lb. that of the recently-arrived English and Scotch students. But the French Canadian of the tenth generation did better than all by nearly 30 lb. Not only has the French Canadian increased in strength, but also in height and weight, over the original Normandy stock.

[Dr. Roddick next referred to the Canadian spas, mentioning particularly Banff, and continued:]

Banff, now a picturesque town magnificently situated in the heart of the Rocky Mountains, yet within the limits of that division of the North-West Territories known as Alberta, has become one of our noted health resorts, although frequented more on account of its remarkable thermal springs than for its climatic advantages. The town is built on the banks of the Bow and Spray rivers, two large glacier streams, and is surrounded by mountains towering many thousands of feet above the level of the sea. The winter is short, beginning in December and ending in February, and is much milder than Ontario. Very little rain falls, and the days, as a rule, are bright and cloudless. Prolonged periods of warm weather are experienced during winter. March and April are variable; May is warm and bright; June is the month in which the greatest rainfall occurs; July, August, September, and October are very warm and very dry, with cool nights. At all seasons, with the exception perhaps of June, the air is dry and notably aseptic.

[Dr. Roddick then gave an analysis of the springs and mentioned their therapeutic value. He then passed to consider medical education in Canada. He continued:]

MEDICAL EDUCATION IN CANADA.

The general question of medical education is one of great importance and of unceasing interest, nor is this interest confined to the profession; it is becoming universal. The needs of medical education are fortunately being more fully realised by those who on account of their wealth and influence are in a position to render that substantial assistance which is so requisite. The time was when every medical school was a purely proprietary concern, "run" for the money that was in it. We feel in Canada, and I think I can speak for the profession in the neighbouring republic, that this day is passed, that high-minded philanthropists like Sir Donald Smith, the late John Henry Molson, and others with us, and the Johns Hopkins, the Stanfords, the Vanderbilts, the Rockfellers, the Miss Garretts, and others with them are beginning to realise that unendowed instruction in medicine must lead to imperfect results, and that private endowment, in the absence of State aid, has become an absolute necessity to a proper medical training. I am not an advocate for State aid to universities, and I rejoice that the University to which I have the honour to belong is not so dependent, as it might thus be deprived of those gifts of private munificence, to which I have just referred. All honour to those far-seeing, open-handed men and women who are giving of their abundance in order to elevate the standard of medical education, and by so doing benefit their kind. As Gould very tersely puts it in one of his clever articles: "I think our reliance must be upon private bequests, and these can be secured only as we interest the rich. We must never weary in showing the neglect of the greatest, most palpable, most certain means of doing good. There is a strange fatality in men, an unaccountable inability of seeing the need that lies nearest the good that is dearest. There is more money to-day devoted to astronomy than to the prevention of disease. It is positively wonderful to think that men should be more

interested in stars and constellations than in their bodies and their physiological life."

A question which is nowadays agitating the minds of those especially interested in medical education is the kind of groundwork which is likely to bear the most direct relation to the future studies of the medical student. I think it is now conceded by all that he is placed at a greater advantage who first passes through an arts or a science course. I am happy to be able to report that from 15 to 20 per cent. of those who are studying medicine in this country to-day have had a collegiate training in either arts or a science. Which of the two should the parent or guardian choose? Had I a son whose instincts were in the direction of medicine I think I should choose for him the science course. The late Professor Huxley thought it was a most self-evident proposition that the educational training for persons who proposed to enter the medical profession should be largely scientific; not merely or even principally because an acquaintance with the elements of physical and biological science is absolutely essential to the comprehension of human physiology and pathology, but still more because of the value of the discipline afforded by practical work in these departments in the process of observation and experiment, in inductive reasoning, and in manipulation. The subjects in the science curriculum might be specially selected for the future medical student. Of course, it may be said in favour of the arts course that many of the subjects, such as physics and chemistry, constitute part of the curriculum; but then calculate the loss to the future surgeon of that training of the hand and eye which would lead him up to be a skilled operator; or to the scientific physician whose complicated instruments of precision employed in the diagnosis of disease need some mechanical knowledge for both their use and repair. Besides, the number of those has been increasing in number and complexity with the increase of scientific knowledge. But can we not make a new departure? Can we not urge that a special scientific education be arranged by the university for those who desire to enter the medical profession? Such a course would embrace elementary Latin and Greek, French and German, physics, chemistry, biology, psychology, elementary mechanics, a practical laboratory course on electricity, and drawing. After two years' study this might entitle the successful candidate to the degree of Licentiate in Science. Something of this kind has been recently attempted in the University of McGill. By a special arrangement with the Faculty of Arts it is now possible for students to obtain the degree of B.A. along with M.D., C.M., after only six years of study. It has been decided to allow the primary subjects (anatomy, physiology, and chemistry) in medicine to count as subjects of the third and fourth years in arts. It follows, then, that at the end of four years' study a student may obtain his B.A. degree and have two years of his medical course completed. The last two years of study are, of course, devoted to the third and fourth year subjects in medicine. A certificate of Licentiate in Arts will be given along with the professional degree in medicine to those who previously to entrance upon their professional studies proper have completed examinations therein. By this plan, also, during the first two years of the arts course the medical student practically completes his studies in physics, chemistry, botany, and elementary psychology. This scheme is still in the experimental stage, but there is every reason to believe that it will result satisfactorily. What deters so many from taking a full course in arts or science before entering medicine is the length of time consumed before the doctorate degree is reached. I might state that the standard for the ordinary matriculation examination for entrance to medicine exacted by all universities and licensing boards in this country is, with one or two exceptions, very high. I doubt if the requirements in this way of the General Medical Council of Great Britain are any higher.

[Dr. Roddick here compared the Canadian medical schools with those of the United States and continued:]

In clinical teaching also we have made marked advances. A creation of the last few years is the clinical demonstrator, who takes small classes of students into the wards or the outdoor department of our hospitals, and gives them that "bedside instruction" which is so essential, leaving the clinical professor to deal with the full classes in the lecture or operating room. Thus each student is enabled personally to examine the case, to study the physiognomy of disease, and to make deliberate, thorough, and systematic examinations. He thus learns to use his special senses, and gets into careful habits of observation which once thoroughly acquired will be found to contribute largely to future success. With this in view, we encourage students to attend the out-patient department of the hospitals as early as the second year. In order to make the clinical instruction more complete and more thorough chemical and bacteriological laboratories have been added to the pathological departments of our hospitals. Thus it will be seen that laboratory methods everywhere prevail, all with the idea of developing the scientific spirit in students and of cultivating methods of thought with observation. The question sometimes arises, however, May the student not be getting too much of a good thing? Is it not possible that laboratory teaching may be overdone? because, as Welsh very truly says, "The student whose knowledge of a subject is derived exclusively from laboratory courses is likely to lose his perspective in details, to acquire only a fragmentary knowledge of the subject, to fail to comprehend the general bearing of observed facts; and not to acquire the general principles and systematic conceptions which are essential. Laboratory work should be accompanied and supplemented by the reading of text-books and by lectures." I am convinced that with us in Canada laboratory work is not overdone, but, on the contrary, in some departments needs and deserves further encouragement. I hope every laboratory teacher in the country realises that the object of a college is to give a good general education and not to make experts in various branches. I have long felt myself, however, that the didactic lectures were being unfairly dealt with. There is a feeling abroad that they should be practically elbowed out of sight. I think the didactic lecture has its place in the medical course; and while I quite feel that the old plan of compelling students to listen to five didactic lectures a week in all of the great subjects was a mistake, I still feel that a good lecturer can teach in this way a certain something which cannot be imparted by practical instruction or by recitations. The personal influence of a good lecturer very often makes an impression which nothing else can make; and if such lectures are made also demonstrative, as by the use of diagrams, the lantern, experiments, &c., they must of necessity fill a very important place in the medical course.

Hygiene is at last receiving in this country the attention which its importance demands; all medical schools in Canada have facilities for teaching it. In McGill University the scope of the teaching of hygiene has been vastly extended, thanks to the generous endowment of that department recently by the chancellor, Sir Donald Smith. The subject can now be taught in a scientific, and at the same time eminently practical, manner. There will be three teachers associated with the professor himself—namely, the heads of the Department of Practical Chemistry, of Pathology, and of Bacteriology. This is following very much the German system, also adopted by the University of Pennsylvania, the chemical and bacteriological aspects of the subject being really regarded as the most important. An extensive working museum, with sanitary apparatus of every kind, forms part of the scheme, and will doubtless add greatly to the efficiency of the course when it is completed. Should the experiment succeed you will be rejoiced to hear at no distant date that the other schools in Canada have followed the lead of their elder sister. I fear I have given you a very imperfect idea of medical education in Canada, and it may be charged against me that I have been partial in my description to my own university; but I assure you that such was furthest from my thoughts. The medical faculty of McGill University has the right of seniority, and might fairly, I think, be taken as a type of Canadian medical schools. Be assured there is no mean spirit of rivalry abroad. We are all working with one object only—the advancement of medicine in Canada. The teaching facilities of some medical schools in this country may be, and are, actually greater than others, owing to the munificence of citizens, and the school attached to McGill is, I am happy to say, in that position; but although assistance has been rendered in a general way, with two exceptions the chairs are still unendowed; yet we have great expectations, which we hope will be realised in the near future. Let us hope that our sister universities throughout Canada will be equally fortunate, so that before long we shall be able to report that we are all marching abreast equally equipped. The facilities for clinical teaching in the larger cities of Canada are admirable. Speaking for the city of Montreal, we have in the five general hospitals—the Hôtel Dieu, Montreal General, Notre Dame, Royal Victoria, and Western Hospitals—nearly

800 beds. The number of students attending the three medical schools was last session 646; and, considering that only about half—those of the third and fourth years—have access to the wards, there will be at least two beds for each student. The number of out-door patients attending the five hospitals daily would aggregate at least 300, so that there could be no possible cause for complaint regarding both the quantity and quality of clinical material available in this city.

While on the subject of hospitals I would take this opportunity of saying that the training schools attached to the larger English hospitals are in a very flourishing condition, and are found to contribute not a little towards the thoroughness of the practical teaching. It was my intention to have referred at some length to the whole question of nurses and nursing, but the limits of this address forbid. I might say, however, while as a profession we feel the absolute necessity for the training school and thoroughly appreciate the services of the well-trained nurse, both in hospital and in private practice, there is the fear that the supply may soon exceed the demand. A project is on foot now, however, which may delay, if not actually prevent, such a result. I refer to the recent establishment by that most estimable and charitable woman, the Countess of Aberdeen, of the Victorian Order of Nurses—another outcome of the Jubilee of our beloved Queen. Her Excellency's idea in establishing this Order is to supply the sparsely settled parts of our great north-west, the outlying districts of Canada generally, and the poor in towns and cities with nursing aid. In this great work hundreds of nurses will in time be employed. The scheme, which is purely non-sectarian, and appeals to all irrespective of nationality, when thoroughly worked out and more generally understood will become one of our national institutions. Let us wish it every success.

MEDICAL LEGISLATION IN CANADA.

Time will not permit of my discussing the subject of medical legislation in Canada at any length; and, besides, you will find it very fully treated in the excellent Souvenir or Local Guide prepared for you by the executive committee. In addition, I might explain, however, that when the British American provinces became federated in 1867, under the British North America Act, the governance of educational matters was taken away from the Federal authorities, and handed over to the provinces, each to look after them in its own way. In consequence we have since had a curious complexity of medical legislation, there being practically no uniformity amongst the provinces in regard to standard of study or qualification for practice. Each province has its own medical board or medical council, as the case may be, which has the power to grant licence to practise either after examination or on simply presenting the diploma of certain recognised universities. In the provinces of Ontario and British Columbia an examination is exacted; in the others the licence is given under certain restrictions on presentation of the degree, although in the Maritime Provinces an examining board is now about to be established. In this way, as can readily be seen, a Chinese wall is built round each province, and the frontier is carefully guarded, so that it is unsafe for a medical man to pass from one to the other unarmed with a licence because of the risk of fine or even imprisonment. Such a condition of affairs is hardly credible, and probably exists nowhere else to the same extent. What is the remedy? Two remedies have been suggested—either the establishment of a central examining board in each province with a uniform standard of matriculation and a uniformly high standard of curriculum which shall in time lead up to a general scheme of reciprocity; or, secondly, a Dominion Examining Board. The first scheme is at present under serious consideration, although there are many difficulties in the way of its accomplishment, none of which is insuperable, however, providing a spirit of conciliation prevails. The second alternative (a Dominion Examining Board) would in many respects be more desirable, because not only could the licentiate practise in any part of the Dominion, but he could register in Great Britain, and thus receive recognition all over the empire. As you are doubtless aware, we as a profession suffer in this country from being inhabitants of provinces which are confederated. In an enactment, now of some twelve years' standing, the British Medical Council decided in effect to recognise the degrees of universities situated in autonomous provinces only. As a consequence, Australians obtain privileges which are denied to us, being permitted to register in Great Britain without examination. We are being punished for belonging to a colony whose form of Government is recognised to be in advance of theirs and likely to be imitated by them. Let us give our Australian brethren a hint; if the confederation of your provinces be in contemplation, see to it that all matters of professional education are left in the hands of the Central Government, at least as far as qualification for registration is concerned. By so doing you will avoid the almost inextricable tangle in which we in Canada find ourselves. Let common school education go to the various provinces if you will, but for the profession of medicine (and doubtless law also) there should be a uniform standard of matriculation, a uniform curriculum of medical studies, and one Central Examining and Registering Board composed of the best men from all the universities. We hope in Canada to reach that ideal at no distant date; in fact, I have the very best authority for stating that it is not impossible of accomplishment. Some scheme of reciprocity first arranged would doubtless make the task less difficult, but, failing that, our duty is to arrange for some legislation which shall give our better and more ambitious students an opportunity of passing a Dominion Licensing Board (or whatever it may be called) which shall give the privilege of practising their profession, not only in any part of their native country, but in any part of the world over which the British flag flies. Such a scheme need not interfere in any way with the autonomy of the provinces. Each may still retain its Provincial Board for the purpose of examining and issuing licences to those candidates who are satisfied to practise their profession in the limited sphere of their own provinces. I think the legislators of this country will some day (and not far distant either) be induced to see that the system which at present obtains is unworthy of a great and growing country.

In conclusion, allow me to express the hope that the arrangements made by the executive committee for the entertainment of our guests may meet with appreciation and approval, and that the memories of the brief sojourn here may be all that is bright and happy. The loyalty and unanimity with which the profession throughout the Dominion has coöperated with us in Montreal to make this meeting of the British Medical Association a success from every point of view deserves and receives our heartiest thanks. We are also greatly indebted for the kind and ready assistance of the Dominion Government, the Quebec Government, and the Civic Government of Montreal. Our hands have been strengthened, and the cause we have so much at heart has been furthered, by the active goodwill of the country's official representatives. One word more. It is a good thing to be here to-day in the midst of this great gathering so full of power and vigour. The fruits of such a gathering should be tangible, enduring—not ephemeral, nor for to-day, but for all time. To our kinsmen from beyond the great seas let me express the earnest hope that in the future our kinship will be a more real and living thing than in the past. We are members of one great family, members one of another, in a peculiar and very real sense. Let that once be recognised and the statesman's task will be an easy one. In more than words has Canada shown herself worthy of her high heritage, worthy of a part in the Empire, worthy to share in its trials and triumphs. We who know her history can say with well-founded confidence:

> "So in the long hereafter this Canada shall be
> The worthy heir of British power and British liberty,
> Spreading the blessings of her sway to her remotest bounds,
> While with the fame of her fair name a continent resounds.
> True to her high traditions, to Britain's ancient glory,
> Of patient saint and martyr, alive in deathless story;
> Strong in their liberty and truth to shed from shore to shore
> A light among the nations till nations are no more."

CLAYBURY ASYLUM.—On Aug. 30th Dr. Collins, the chairman of the London County Council and a prominent member of the asylums committee, to whose advocacy the pathological laboratory for the London asylums is due, distributed the certificates of the Medico-Psychological Association for Proficiency in Mental Nursing to the Male and Female Staff. He delivered an interesting address, reviewing the treatment of insanity from the early days of "Bedlam" in 1653, when the victims of disease were imprisoned and ill-treated for being a "displeasure to God and an annoyance to the King's subjects." He urged upon nurses and attendants the cultivation of forbearance, gentleness, and graciousness in their dealings with the insane, that their duty was to extend human happiness and lessen human pain, and that kindness and softness of manner would go far to assist in the recovery of those whose lives had probably been, before a stern and relentless fate decreed otherwise, full of hope, energy, and happiness.

Address in Medicine:

BRITISH MEDICINE IN GREATER BRITAIN

Delivered at the Sixty-fifth Annual Meeting of the British Medical Association at Montreal, August–September, 1897,

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THE MAKING OF GREATER BRITAIN.

GENTLEMEN,—To trace successfully the evolution of any one of the learned professions would require the hand of a master—of one who, like Darwin, could combine the capacity for patient observation with philosophic vision. In the case of medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered, and, as it were, in a state of intellectual giddiness, when we attempt to obtain a broad comprehensive view of the subject. In a safer "middle flight" it is my purpose to dwell on certain of the factors which have moulded the profession in English-speaking lands beyond the narrow seas—of British Medicine in Greater Britain. Even for this lesser task (though my affiliations are wide and my sympathies deep) I recognise the limitations of my fitness, and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participators. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long-fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated, and independent, now glide like dissolving views into each other, and in the vitascope of history we can see the true sequence of events. That we can meet here to-day, Britons on British soil in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the eighteenth century, the revolt of the colonies and the founding of a second great English-speaking nation—in the words of Bishop Berkeley's prophecy, "Time's noblest offering." Surely a unique spectacle that a century later descendants of the actors of these two great dramas should meet in an English city in New France. Here the American may forget Yorktown in Louisberg, the Englishman Bunker's Hill in Quebec, and the Frenchman both Louisberg and Quebec in Chataquay, while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country, this land on which, and for which, you have so often fought. Once, and only once, before in the history of the world could such a gathering as this have taken place. Divided though the Greeks were, a Hellenic sentiment of extraordinary strength united them in certain assemblies and festivals. No great flight of imagination is required to picture a notable representation of our profession in the fifth century B.C. meeting in such a colonial town as Agrigentum under the presidency of Empedocles. Delegates from the mother cities, brilliant predecessors of Hippocrates of the stamp of Damocedes and Herodicus, delegates from the sister colonies of Syracuse and other Sicilian towns, from neighbouring Italy, from far distant Massilia, and from still more distant Pauticapæum and Istria. And in such an assemblage there would have been men capable of discussing problems of life and mind more brilliantly than in many subsequent periods, in proportion as the pre-Hippocratic philosophers in things medical had thought more deeply than many of those who came after them.

We English are the modern Greeks, and we alone have colonised as they did—as free people. There have been other great colonial empires—Phœnician, Roman, Spanish, Dutch, and French; but in civil liberty and in intellectual freedom Magna Græcia and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to the similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says: "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasise two points, one of difference and one of resemblance. The Greek colonist took Greece with him. Hellas had no geographical bounds. "Massilia and Obia were cities of Hellas in as full a sense as Athens or Sparta." While the emigrant Britons changed their sky, not their character, in crossing the great sea, yet the home-stayers had never the same feelings towards the plantations as the Greeks had towards the colonial cities of Magna Græcia. If, as has been shrewdly surmised, Professor Seely was Herodotus re-incarnate, how grieved the spirit of the "Father of History" must have been to say of Englishmen, "Nor have we even now ceased to think of ourselves as simply a race inhabiting an island off the northern coast of the continent of Europe." The assumption of gracious superiority, which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the empire, and the supplanting of a national by an imperial spirit, this will become impossible. That this sentiment never prevailed in Hellas, as it did later in the Roman empire, was due largely to the fact that in literature, in science, and in art the colonial cities of Greece early overshadowed the mother cities. It may be because the settlements of Greater Britain were things of slower growth, that it took several generations and several bitter trials to teach a lesson the Greeks never had to learn. The Greek spirit was the leaven of the old world, the workings of which no nationality could resist. Thrice it saved Western civilisation, for it had the magic power of leading captivity captive, and making even captive conquerors the missionaries of culture. What modern medicine owes to it will appear later. "The love of science, the love of art, the love of freedom, vitally correlated to each other and brought into organic union," were the essential attributes of the Greek genius (Butcher). While we cannot claim for the Anglo-Saxon race all of these distinctions, it has in a high degree that one which in practical life is the most valuable, and which has been the most precious gift of the race to the world—the love of freedom.

> "Of freedom in her regal seat
> Of England."

It would carry one too far afield to discuss the difference between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia, and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other and from the English as the American does to-day from the original stock; but amid these differences can everywhere be seen those race qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work." At a future meeting of the Association, perhaps in Australia, a professional Sir Charles Dilke, with a firm grasp on the subject, may deal with the medical problems of Greater Britain in a manner worthy of the address in medicine. My task, as I mentioned at the outset, is much less ambitious.

THE INFLUENCE OF GREECE ON BRITAIN.

Could someone with full knowledge patiently analyse the characteristics of British medicine he would find certain national traits sufficiently distinct for recognition. Three centuries cannot do very much—and that period has only just passed since the revival of medicine in England—but the local conditions of isolation, which have been singularly favourable to the development of special peculiarities in the national character, have not been without effect on the medical profession. I cannot do more than touch upon a few features, not distinctive, but illustrative—features which will be useful as indicating the sources of influence upon Greater Britain in the past, and which may perhaps be suggestive as to lines of progress in the future. Above the fireplace in Sir Henry Acland's study are three panelled portraits of Linacre, Sydenham, and Harvey; the scroll upon them reads *Literæ, Praxis, Scientia.* To this great triumvirate, as to the fountain heads, we may trace the streams of inspiration which have made British medicine what it is to-day. Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the

sixteenth century in England, and in the last Harveian Oration Dr. Payne has pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist, devoted to objects which the world thought of little use." Painstaking, accurate, critical, hypercritical perhaps, he remains to-day the chief literary representative of British medicine. Neither in Britain nor in Greater Britain have we maintained the place in the world of letters created for us by Linacre's noble start. It is true that in no generation since has the profession lacked a man who might stand unabashed in the temple at Delos; but, judged by the fruits of learning, scholars of his type have been more common in France and Germany. Nor is it to our credit that so little provision is made for the encouragement of these studies. For years the reputation of Great Britain in this matter was sustained almost alone by the great Deeside scholar, the surgeon of Banchory, Francis Adams, the interpreter of Hippocrates to English students. In this century he and Greenhill have well maintained the traditions of Linacre. Their work, and that of a few of our contemporaries, among whom Ogle must be specially mentioned, has kept us in touch with the ancients. But by the neglect of the study of the humanities, which has been far too general, the profession loses a very precious quality.

While in critical scholarship and in accurate historical studies British medicine must take a second place, the influence of Linacre, exerted through the Royal College of Physicians and the old Universities, has given to the humanities an important part in education, so that they have moulded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those finer qualities of heart and head which count for so much in life. Pasture is not everything, and that indefinable, though well understood, something which we know as breeding is not always an accompaniment of great professional skill. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners, and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark: Beaumont, Bovell, and Hodder, in Toronto; Holmes, Campbell, and Howard, in this city; the Warrens, the Jacksons, the Bigelows, the Bowditches, and the Shattucks, in Boston; Bard, Hossack, Francis, Clark, and Flint in New York; Morgan, Shippen, Redman, Rush, Coxe, the elder Wood, the elder Pepper, and the elder Mitchell in Philadelphia—Brahmins all, in the language of the greatest Brahmin among them—Oliver Wendell Holmes—these, and men like unto them, have been the leaven which has raised our profession above the dead level of a business. The *literæ humaniores*, represented by Linacre, revived Greek methods, but the faculty at the end of the sixteenth and the beginning of the seventeenth centuries was in a slough of ignorance and self-conceit, and not to be aroused even by Moses and the prophets in the form of Hippocrates and the fathers of medicine. In the pictures referred to Sydenham is placed between Linacre and Harvey, but science preceded practice, and Harvey's great Lumleian lectures were delivered before Sydenham was born. Linacre has been well called by Payne Harvey's intellectual grandfather. "The discovery of the circulation of the blood was the climax of that movement which began a century and a half before with the revival of Greek medical classics and especially of Galen" (Payne). Harvey returned to Greek methods and became the founder of modern experimental physiology and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. I shall not repeat the oft-told tale of Harvey's great and enduring influence, but I must refer to one feature which until lately has been also a special characteristic of his direct successors in Great Britain. Harvey was a practitioner and a hospital physician. There are gossiping statements by Aubrey to the effect that "he fell mightily in his practice" after the publication of the "De Motu Cordis," and that his "therapeutic way" was not admired; but to these his practical success is the best answer. It is remarkable that a large proportion of all the physiological work of Great Britain has been done by men who have become successful hospital physicians and surgeons. I was much impressed by a conversation with Professor Ludwig in 1884. Speaking of the state of English physiology, he lamented the lapse of a favourite English pupil from science to practice; but he added, "While sorry for him, I am glad for the profession in England." He held that the clinical physicians of that country had received a very positive impress from the work of their early years in physiology and the natural sciences. I was surprised at the list of names which he cited—among them I remember Bowman, Paget, Savory, and Lister. Ludwig attributed this feature in part to the independent character of the schools in England, to the absence of the university element, so important in medical life in Germany, but, above all, to the practical character of the English mind, the better men preferring an active life in practice to a secluded laboratory career. Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted and of acting too." The same is true in a high degree of the English race. To know first what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham (*Angliæ lumen*, as he has been well called) is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods, particularly intellectual fearlessness, and a certain knack of looking at things, Sydenham broke with authority and went to nature. It is an extraordinary fact that he could have been so emancipated from dogmas and theories of all sorts. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what a mass of errors and prejudices, of theories actually mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums."

Sydenham led us back to Hippocrates; I would that we could be led oftener to Sydenham. How necessary to bear in mind what he says about the method of the study of medicine. "In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside, and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily overrated as compared with the subtle inquiries and trifling notions of modern writers, nor can there be a shorter, or, indeed, any other way of coming at the morbific causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms. By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of Nature. He found that Nature alone terminates diseases, and works a cure with a few simple medicines, and often enough with no medicine at all." Well, indeed, has a recent writer remarked: "Sydenham is unlike every previous teacher of the principles and practice of medicine in the modern world." Sydenham—not Linacre or Harvey—is the model British physician, in whom were concentrated all these practical instincts upon which we lay such stress in the Anglo-Saxon character. The Greek faculty which we possess of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances in medicine. The three greatest scientific movements of the century have come from Germany and France. Bichat, Laennec, and Louis laid the foundation of modern clinical medicine; Virchow and his pupils of scientific pathology; while Pasteur and Koch have revolutionised the study of the causes of disease; and yet the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim almost every practical advance of the very first rank—vaccination, anæsthesia, preventive medicine, and antiseptic surgery—the "captain jewels in the carcanet" of the profession, beside which can be placed no others of equal lustre.

THE INFLUENCE OF AUTHORITY IN MEDICINE.

One other lesson of Sydenham's life needs careful conning. The English Hippocrates, as I said, broke with authority. His motto was

> "Thou, Nature, art my goddess; to thy law
> My services are bound."

Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a fatuous objection to change have often retarded the progress of medicine. In every generation, in every country, there had been, and ever will be, *laudatores temporis acti*, in the bad sense of that phrase, not a few of them men in high places, who have lent the weight of a complacent conservatism to bolster up an ineffectual attempt to stay the progress of new ideas. Every innovator, from Harvey to Lister, has been made to feel its force. The recently issued Life of Thomas Wakley is a running commentary on this spirit, against the pricks of which he kicked so hard and so effectually. But there are signs of a great change. The old universities and the colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se* has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men" (Hooker). Science must ever hold with Epicharmus that a judicious distrust and a wise scepticism are the sinews of the understanding. And yet the very foundations of belief in almost everything relating to our art rests upon authority. The practitioner cannot always be the judge, the responsibility must often rest with the teachers and investigators, who can only learn in the lessons of history the terrible significance of the word.

In the treatment of fever the fetters of a thousand years were shattered by Sydenham—shattered only to be riveted anew. How hard was the battle in this century against the entrenched and stubborn foe. Listen to the eloquent pleadings of Stokes, pleading, as did Sydenham, against authority and against the bleedings, the purgings, and sweatings of fifty years ago. "Though his hair be grey and his authority high he is but a child in knowledge and his reputation an error. On a level with a child, so far as correct appreciation of the great truths of medicine is concerned, he is very different in other respects; his powers of doing mischief are greater; he is far more dangerous. Oh! that men would stoop to learn, or at least cease to destroy." The potency of human authority among "the powers that be" was never better drawn than by the judicious Hooker in his section on this subject. "And this not only with the 'simpler sort,' but the learneder and wiser we are the more such arguments in some cases prevail with us. The reason why the simpler sort are moved with authority is the conscience of their own ignorance; whereby it cometh to pass that having learned men in admiration, they rather fear to dislike them than know wherefore they should allow and follow their judgments. Contrariwise with them that are skilful, authority is much more strong and forcible, because they only are able to discern how just cause there is why to some men's authority so much should be attributed. For which cause the name of Hippocrates, no doubt, were more effectual to persuade even such men as Galen himself than to move a silly empiric."[1] Sydenham was called "a man of many doubts," and therein lay the secret of his great strength.

MEDICINE IN AMERICA: TO 1820.

Turning now to the main question of the development of this British medicine in Greater Britain I must at once acknowledge the impossibility of doing justice to it. I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain. We may recognise three periods corresponding to three distinct waves of influence: the first from the early migrations to about 1820, the second from about 1820 to 1860, and the third from about 1860 to the present time. The Colonial settlements were contemporaneous with the revival of medicine in England. Fellow students of Harvey at Cambridge might have sailed in the *Mayflower* and the *Arbella*. The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly of the New-England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the new world. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelical conjunction." He says: "Ever since the days of Luke the Evangelist skill in physic has been frequently professed and practised by persons whose more declared business was the study of divinity." Firman himself finding physic "but a meane helpe" took orders. These English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's "Scarlet Letter," has depicted them in a sketch of his own life: "Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge; faithfully, too, for the advancement of human welfare; men thoughtful for others, caring little for themselves, kind, just, true, and of constant if not warm affections"—a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools—University of Pennsylvania, 1763; King's College (afterwards Columbia), 1767; and Harvard, 1782—the supply of physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system and of colonists who went to Edinburgh, Leyden, and London for their medical education. This latter group had a most powerful effect in moulding professional life in the pre-revolutionary period. They were men who had enjoyed not alone the instruction, but often the intimate friendship, of the great English and European physicians. Morgan, Rush, Shippen, Bard, Wistar, Hossack, and others had received an education comprising all that was best in the period, and had acquired the added culture which can only come from travel and wide acquaintance with the world. Morgan, the founder of the medical school of the University of Pennsylvania, was away seven years, and before returning had taken his seat as a corresponding member of the French Academy of Surgery, besides having been elected a Fellow of the Royal Society. The War of Independence interrupted temporarily the stream of students, but not the friendship which existed between Cullen and Fothergill and their old pupils in America. The correspondence of these two warm friends of the colonies testifies to the strong professional intimacy which existed at the time between the leaders of the profession in the old and new worlds. But neither Boerhaave, Cullen, nor Fothergill stamped colonial medicine as did the great Scotsman, John Hunter. Long weary centuries separated Harvey from Galen; not a century elapsed from the death of the great physiologist to the advent of a man in whose phenomenal personality may be seen all the distinctive traits of modern medicine, and the range of whose mighty intellect has had few, if any, equals since Aristotle. Hunter's influence on the profession of this continent, so deep and enduring, was exerted in three ways. In the first place, his career as an army surgeon, and his writings on subjects of special interest to military men, carried his work and ways into innumerable campaigns in the long French wars and the War of Independence. Hunter's works were reprinted in America as early as 1791 and 1793. In the second place, Hunter had a number of most distinguished students from the colonies, among whom were two who became teachers of wide reputation. William Shippen, the first Professor of Anatomy in the University of Pennsylvania, lived with Hunter on terms of the greatest intimacy. He brought back his methods of teaching and some measure of his spirit. With the exception of Hewson and Home Hunter had no more distinguished pupil than Philip Syng Physick, who was his house surgeon at St. George's Hospital and his devoted friend. For more than a generation Physick had no surgical compeer in America, and enjoyed a reputation equalled by no one save Rush. He taught Hunterian methods in the largest medical school in the country, and the work of his nephew (Dorsey) on surgery is very largely Hunter modified by Physick. But in a third and much more potent way the great master influenced the profession of this continent. Hunter was a naturalist to whom pathological processes were only a small part of a stupendous whole, governed by law, but which could never be understood until the facts had been accumulated, tabulated, and systematised. By his example, by his prodigious industry, and by his suggestive experiments he led men again into the old paths of Aristotle, Galen, and Harvey. He made all thinking physicians naturalists; he lent a dignity to the study of organic life, and re-established a close union between medicine and the natural sciences. Both in Britain and Greater Britain he laid the foundation of the great collections and museums, particularly those connected with the medical schools. The Wistar-Horner and the Warren Museums originated with men who had been greatly influenced by Hunter. He was, moreover, the intellectual father of that interesting group of men on this side of the Atlantic who, while practising as physicians, devoted

[1] Ecclesiastical Polity, Book ii., vii., 2

much time and labour to the study of natural history. In the latter part of the last century and during the first thirty years of this the successful practitioner was very often a naturalist.

I wish that time permitted me to do justice to the long list of men who have been devoted naturalists and who have made contributions of great value. Benjamin Smith Barton, David Hossack, Jacob Bigelow, Richard Harland, John D. Godman, Samuel George Morton, John Collis Warren, Samuel L. Mitchell, J. Aiken Meigs, and many others have left the records of their industry in their valuable works, and in the Transactions of the various societies and academies. In Canada many of our best naturalists have been physicians, and collections in this city testify to the industry of Holmes and McCullough. I was regretting the humanities a few minutes ago, and now I have to mourn the almost complete severance of medicine from the old natural history. To a man the most delightful recollections of whose studentship are the Saturdays spent with a preceptor who had a Hunterian appetite for specimens—anything from a trilobite to an acarus,—to such a one across the present brilliant outlook comes the shadow of the thought that the conditions of progress will make impossible again such careers as those of William Kitchen Parker and William Carmichael McIntosh. Until about 1820 the English profession of this continent knew little else than British medicine. After this date in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools and in part to the development of an American literature. To 1820, 114 native medical books of all kinds had been issued from the press, and 131 reprints and translations, the former English, the latter almost exclusively French (Billings). Turning for a few minutes to the conditions of the profession in Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. I may mention, however, that with the earliest settlers physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service) who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.[2] Between the fall of Quebec in 1759 and 1820 the English population had been increased by the settlement of Upper Canada, chiefly by United Empire Loyalists from the United States, and after the war of 1812 by settlers from the old country. The physicians in the sparsely-settled districts were either young men who sought their fortunes in the new colony or were army surgeons who had remained after the revolutionary war or the war of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability, who had seen much service and were accustomed to order, discipline, and regulations. Sabine, in his "History of the Loyalists," refers to the Tory proclivities of the medical men, and says that they were not so much disturbed as the lawyers and clergymen. Still a good many of them left their homes "for conscience' sake"; and Canniff, in his "History of the Profession in Upper Canada," gives a list of those known to have been among the United Empire Loyalists. The character of the men who controlled the profession of the new colony is well shown by the proceedings of the Medical Board, which was organised in 1819. Dr. Macaulay and Dr. Widmer, both army surgeons, were the chief members. The latter, who has well been termed the father of the profession in Upper Canada, a man of the very highest character, did more than anyone else to promote the progress of the profession, and throughout his long career his efforts were always directed in the proper channels. In looking through Canniff's most valuable work one is much impressed by the sterling worth and mettle of the old army surgeons, who in these early days formed the larger part of the profession. The minutes of the Medical Board indicate with what military discipline the candidates were examined, and the percentage of rejections has probably never been higher in the history of the province than it was in the first twenty years of the existence of the Board.

One picture on the canvas of those early days lingers in the memory, illustrating many of the most attractive features of a race which has done much to make this country what it is to-day. Widmer was the type of the dignified old army surgeon, scrupulously punctilious and in every detail regardful of the proprieties of life. "Tiger" Dunlop may be taken as the very incarnation of that restless, roving spirit which has driven the Scots broadcast upon the world. After fighting with the Connaught Rangers in the war of 1812, campaigning in India, clearing the Sangur of tigers—hence his sobriquet "Tiger"—lecturing on medical jurisprudence in Edinburgh, writing for *Blackwood*, editing the *British Press* and the *Telescope*, introducing "Beck's Medical Jurisprudence" to English readers, and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as "Warden of the Black Forest" in the employ of the Canada Company. His life in the backwoods at Gairbraid, his "Noctes Ambrosianæ Canadensis," his famous "Twelve Apostles," as he called his mahogany liquor-stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities,—are they not all pourtrayed to the life in the recently issued "In the Days of the Canada Company"?

[2] Parkman: Jesuits in North America.

AMERICA: 1820–1860.

Turning now to the second period, we may remark in passing that the nineteenth century did not open very auspiciously for British medicine. Hunter had left no successor, and, powerful as had been his influence, it was too weak to stem the tide of abstract speculation with which Cullen, Brown, and others flooded the profession. No more sterile period exists than the early decades of this century. Willan, a great naturalist in skin diseases, with a few others, save it from utter oblivion. The methods of Hippocrates, of Sydenham, and of Hunter had not yet been made available in everyday work. The awakening came in France, and such an awakening! It can be compared with nothing but the renaissance in the sixteenth and seventeenth centuries, which gave us Vesalius and Harvey. "Citizen" Bichat and Broussais led the way, but Laennec really created clinical medicine as we know it to-day. The discovery of auscultation was only an accident—of vast moment, it is true—in a systematic study of the correlation of symptoms with anatomical changes. Louis, Andral, and Chomel extended the reputation of the French school, which was maintained to the full until the sixth decade, when the brilliant Trousseau ended a long line of Paris teachers, whose audience had been world-wide.

The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett, were profoundly affected by the new movement. In the United States Anglican influence did not wane until after 1820. Translations of the works of Bichat appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation of Laennec—a reprint of Forbes's edition—was issued. Broussais's works became very popular in translations after 1830, and in the journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought. After 1825 American students no longer went to Edinburgh and London, but to Paris, and one can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis's works and the extraordinary success of his American pupils—a band of the ablest young men the country has ever seen—added force to the movement. And yet this was a period in which American medical literature was made up largely of pirated English books, and the systems, encyclopædias, and libraries, chiefly reprints, testify to the zeal of the publishers. Stokes, Graves, Watson, Todd, Bennett, and Williams furnished Anglican pap to the sucklings as well as strong meat to the full grown. In spite of the powerful French influence the text-books of the schools were almost exclusively English. In Canada the period from 1820 to 1860 saw the establishment of the English universities and medical schools. In Montreal the agencies at work were wholly Scottish. The McGill Medical School was organised by Scotsmen, and from its inception has closely followed Edinburgh methods. The Paris influence, less personal, was exerted chiefly through English and Scottish channels. The Upper Canada schools were organised by men with English affiliations, and the traditions of Guy's, St. Bartholomew's, St. Thomas's, St. George's, and of the London Hospital rather than those of Edinburgh, have prevailed in Toronto and Kingston. The local French influence on British medicine in Canada has been very slight. In the early decades of the century, when the cities were smaller, and the intercourse between the French and English somewhat closer, the

reciprocal action was more marked. At that period English methods became somewhat the vogue among the French; several very prominent French Canadians were Edinburgh graduates. Attempts were made in the medical journals to have communications in both languages, but the fusion of the two sections of the profession was no more feasible than the fusion of the two nationalities, and the development has progressed along separate lines.

AMERICA, 1860–1897.

The third period dates from about 1860, when the influence of German medicine began to be felt. The rise of the Vienna school was for a long time the only visible result in Germany of the French renaissance. Skoda, the German Laennec, and Rokitansky, the German Morgagni, influenced English and American thought between 1840 and 1860, but it was not until after the last date that Teutonic medicine began to be felt as a vitalising power, chiefly through the energy of Virchow. After the translation of the "Cellular Pathology" by Chance (1860) the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence in the profession of this continent. It came partly through the study of pathological histology under the stimulus given by Virchow, and partly through the development of the specialities, particularly diseases of the eye, of the skin, and of the larynx. The singularly attractive courses of Hebra, the organisation on a large scale in Vienna of a system of graduate teaching, designed especially for foreigners, and the remarkable expansion of the German laboratories combined to divert the stream of students from France. The change of allegiance was a deserved tribute to the splendid organisation of the German Universities, to the untiring zeal and energy of their professors, and to their single-minded devotion to science for its own sake.

MEDICINE IN AUSTRALASIA.

In certain aspects the Australasian settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, and distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform, and, of whatever character, have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of graduates and licentiates from the English, Scottish, and Irish Colleges and Boards guarantees the dominance of old country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of "crescent promise." On looking over the files of Australian and New Zealand journals one is impressed with the monotonous similarity of the diseases in the Antipodes to those of Great Britain and of this continent. Except in the matter of parasitic affections and snake bites, the nosology presents few distinctive qualities. The proceedings of the four Intercolonial Congresses indicate a high level of professional thought. In two points Australia has not progressed as other parts of Greater Britain. The satisfactory regulation of practice, so early settled in Canada, has been beset with many difficulties. Both in the United States and in Australia the absence of the military element, which was so strong in Canada, may in part at least account for the great difference which has prevailed in this matter of the State licence. The other relates to the question of ethics, to which one really does not care to refer, were it not absolutely forced upon the attention in reading the journals. Elsewhere professional squabbles, always so unseemly and distressing, are happily becoming very rare, and in Great Britain and on this side of the water we try at any rate to wash our dirty linen at home. In the large Australian cities differences and dissensions seem lamentably common. Surely they must be fermented by the atrocious system of election to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2000 to 4000 voters. Well indeed might Dr. Batchelor, in his address to the Fourth Intercolonial Congress, say: "It is a scandal that in any British community, much less in a community which takes pride in a progressive spirit, such a pernicious system should survive for an hour."

MEDICINE IN HINDUSTAN.

Of India, of "Vishnu-land," what can one say in a few minutes? Three thoughts at once claim recognition. Here, in the dim dawn of history, with the great Aryan people, was the intellectual cradle of the world. To the Hindus we owe a debt which we can at any rate acknowledge; and even in medicine many of our traditions and practices may be traced to them, as may be gathered from that most interesting "History of Aryan Medical Science," by the Thakore Sahib of Gondal. Then there arises the memory of the men who have done so much for British medicine in this great empire. Far from their homes, far from congenial surroundings, and far from the stimulus of scientific influences, Annesley and Ballingall, Twining, Morehead, Waring, Parkes, Cunningham, Lewis, Vandyke Carter, and many others have nobly upheld the traditions of Harvey and of Sydenham. On the great epidemic diseases how impoverished would our literature be in the absence of their contributions. But then there comes the thought of "the little done, the undone vast," when one considers the remarkable opportunities for study which India has presented. Where else in the world is there such a field for observation in cholera, leprosy, dysentery, the plague, typhoid fever, malaria, and in a host of other less important maladies. And what has the British Government done towards the scientific investigation of the diseases of India? Until recently little or nothing, and the proposal to found an institute for the scientific study of disease has actually come from the native chiefs. The work of Dr. Hankin and of Professor Haffkine, and the not unmixed evil of the brisk epidemic of plague in Bombay, may arouse the officials to a consciousness of their shortcomings. While sanitary progress has been great, as shown in a reduction of the mortality from 69 per mille before 1857 to 15 per mille at present, many problems are still urgent, as may be gathered from Dr. Harvey's Presidential Address in the Proceedings of the Indian Medical Congress. That typhoid fever can be called the "scourge of India," and that the incidence of the disease should remain so high among the troops, points to serious sanitary defects as yet unremedied. As to the prevalence of venereal disease among the soldiers, an admission of nearly 500 per mille tells its own tale. On reading the journals and discussions one gets the impression that things are not as they should be in India. There seems to be an absence of proper standards of authority. Had there been in each Presidency during the past twenty years well-equipped Government laboratories in charge of able men, well trained in modern methods, the contributions to our knowledge of epidemic diseases might have been epoch-making.

THE FUTURE OF MEDICINE IN GREATER BRITAIN.

In estimating the progress of medicine in the countries comprising Greater Britain the future rather than the present should be in our minds. The strides which have been taken during the past twenty years are a strong warrant that we have entered upon a period of exceptional development. When I see what has been accomplished in this city in the short space of time since I left I can scarcely credit my eyes. The reality exceeds the utmost desires of my dreams. The awakening of the profession in the United States to a consciousness of their responsibilities and opportunities has caused unparalleled changes, which have given an impetus to medical work which has already borne a rich harvest. Within two hundred years who can say where the intellectual centre of the Anglo-Saxon race will be? The mother country herself has only become an intellectual nation of the first rank within a period altogether too short to justify a prediction that she has reached the zenith. She will probably reverse the history of Hellas, in which the mental superiority was at first with the colonies. At the end of the next century ardent old-world students may come to this side, "as o'er a brook," seeking inspiration from great masters, perhaps in this very city; or the current may turn towards the schools of the great nations of the south. Under new and previously unknown conditions the Africander, the Australian, or the New Zealander may reach a development before which even the "glory that was Greece" may pale. Visionary as this may appear, it is not one whit more improbable to-day than would have been a prophecy made in 1797 that such a gathering as the present would be possible within a century on the banks of the St. Lawrence.

Meanwhile to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinctions of race, nationality, colour, and creed are unknown within the portals

of the temple of Æsculapius. Dare we dream that this harmony and cohesion so rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of Time will weld no links between man and man stronger than those of religion or of country? Some son of Beor, touched with a prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain top, some spectator of all time and all existence (to use Plato's expression) might see in this gathering of men of one blood and one tongue a gleam of hope for the future—of hope, at any rate, that the great race, so dominant on the earth to-day, may progress in the bonds of peace—a faint glimmer, perhaps, of the larger hope of humanity of the day when "the common sense of most shall hold a fretful world in awe." But these, I fear, are the dreams of the closet student who knows not the world or its ways. There remains for us, Greater Britons, of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features; of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey, and Sydenham—those "ancient founts of inspiration," and models for all time in literature, science, and practice.

ABSTRACT OF THE

Address in Surgery:

THE SURGEON OF OLD IN WAR.

Delivered at the Sixty-fifth Annual Meeting of the British Medical Association at Montreal, August–September, 1897,

BY W MITCHELL BANKS, M.D. EDIN.,

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GENTLEMEN,—I am indeed greatly honoured by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our profession who have never received their due reward—those, namely, who have devoted their lives to the succour of the sick and the wounded in war.

MILITARY SURGEONS IN THE ROMAN ARMY.

Twelve months ago my friend, Dr. Barnes, of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled, "Was the Roman Army provided with medical officers?"—a paper exhibiting such profound learning, so charmingly written, and so little known, that I need not make any apology for acquainting you with some of its chief points of interest. The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organisation has been treated of, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets. Borcovicus, in Northumberland,—now called Housesteads—was one of the principal stations on the line of Hadrian's wall. Here, about seventy years ago, was found a monumental tablet, now in the Newcastle Museum. On it is the following inscription:—

D M	D(IIS) M(ANIBUS)
ANICIO	ANICIO
INGENUO	INGENUO
MEDICO	MEDICO
ORD COH	ORD(INARIO) COH(ORTIS)
I TUNGR	PRIMAE TUNGR(ORUM)
VIX AN XXV	VIX(IT) AN(NOS) XXV

The First Tungrian Cohort is known to have been present at the battle of the Mons Grampius, and to have served at Castlecary, at Cramond near Edinburgh, in Cumberland, and at Housesteads. The tablet is highly ornamented, and antiquarians hold that a rabbit and round bucklers carved in the upper part, which are emblems of Spain, show that the young military doctor was probably a native of that country. From various works treating of Roman inscriptions, Simpson was enabled to find that four more tablets, in which surgeons of cohorts are mentioned, existed. They were found at Rome. One of them is a votive tablet, the inscription upon which intimates that it was dedicated by Sextus Titius Alexander to Æsculapius and to the safety of his fellow soldiers. It was cut in the year of the consulship of F. Flavius Sabinus, which is known to have been A.D 83. As the Roman legion consisted of ten cohorts, it is interesting to know that there were not only medical officers attached to each cohort, but also one attached to the legion—a sort of surgeon-colonel, as we should call him nowadays. Three tablets have been discovered in which the *medicus legionis* is mentioned. One found at Verona was a tablet raised by Scribonia Faustina to her dearest husband J. Caelius Arrianus, medical officer to the Second Italian Legion, who died at the age of forty-nine years and seven months. Furthermore, Simpson routed out of Mommsen's Latin inscriptions of Naples a tablet, now in the Dresden collection, which was found in the Elysian fields near Baiae, close to the Portus Julius, which was the station of a division of the Imperial fleet. The inscription tells that M. Satrius Longinus, *medicus duplicatorius* to the Trireme Cupid, and the heirs of those freed by Julia Veneria erected the tablet to the manes of that deserving lady. The term *duplicatorius* means that by reason of long or meritorious service he was entitled to double pay and rewards. These little gleanings from Simpson's paper show what an interesting one it is, and one is astonished at the labour that must have been expended in digging up the information contained in it.

AMBROISE PARÉ. ROBERT CLOWES.

[Mr. Banks here gave an outline of the work of Ambroise Paré (1517–1590) in the course of which he remarked: "The world will ever believe in a glorious trio—Paré, the Frenchman, who invented the ligature; Morton, the American, who discovered anæsthetics; and Lister, the Englishman, who introduced antiseptics." He then passed on to Robert Clowes (1540?–1604) who served in France in the army commanded by the Earl of Surrey, and was afterwards for several years in the navy. He finally settled down in London, where he was very successful in practice, and was made surgeon to the Queen. He wrote several works in English, of which the most important is entitled, "A profitable and necessarie Booke of Observations for all those that are burned with the flame of gunpowder, &c., and also for curing of wounds made with musket and caliver shot, and other weapons of war commonly used at this day both by sea and land." Mr. Banks continued:]

PETER LOWE.

Contemporary with Clowes was a most interesting character—Maister Peter Lowe—who was born in Scotland about 1550, and lived some sixty or sixty-five years, reaching well into the seventeenth century. Like many of his countrymen he went to France when very young, where he lived, for some say ten, some twenty years. Then he returned to Glasgow, where he lived and died a citizen of much renown, having obtained in 1599 from King James the Sixth a charter for the Faculty of Physicians and Surgeons of Glasgow, which he thus founded. A few years ago Dr. Finlayson published a most charming account of Maister Peter. His most important work is termed "A Discourse of the whole art of chirurgery, compiled by Peter Lowe, Scottishman, Doctor in the Faculty of Chirurgerie at Paris, and ordinary Chyrurgion to the French King and Navarre." The first edition dated from 1597, and is one of the earliest, if not the very earliest, work embracing the whole art of surgery published in English. It is clear that Lowe must have seen a good deal of military service abroad, being "Chirurgion Major to the Spanish regiments two years at Paris, and since that time following the king of France my maister in the warrs." In his day, as we have seen, the surgical world was still greatly exercised about gunshot wounds and burning by gunpowder as it was believed that they were injuries of quite a peculiar and very poisonous character. Lowe, however, treats of them with great good sense. Thus: "*Of Wounds done by Gun-shot.*—These wounds come indifferently to all parts of

our body whereof there are divers opinions; some think that there is a venenosity in the powder, and burning in the bullet, which is false, for the things whereof the powder is ordinarily made, as Brimstone, Saltpeter, coales of divers sorts of trees, Water, Wine and Aquavitæ, have no venenosity in them; likewise there is no burning in the bullet, for if the bullet of lead being shot a great way, should burne, through heat would be melted itself. I have cured divers within these thirty yeares of divers nations which have followed the warres in Fraunce and other countries, in the which I have found no more difficulty than in any other contused wounds." Here, again, we have a most important advance made by a military surgeon, for only those who are acquainted with the medical literature of Lowe's time can understand the ridiculous views then held about gunshot wounds and the dreadful consequences to the patients which followed from them. We have seen that Paré lived between 1517 and 1590, and that Peter Lowe was in France between 1570 and 1580; consequently, he probably learned all about the ligature for the arrest of hæmorrhage. When treating of amputations he describes the whole process of the operation up to the removal of the limb. Then he says: "One of the Assisters shall put the extreamities of his fingers on the great vains and arteries to stay them from bleeding till the Chyrurgion either knit or cauterise them one after another. Where there is putrefaction we stay the flux of blood by Cauters actuals, and where there is no putrefaction, malignitie, nor humour venomous we use the legator."

WOODALL'S "VIATICUM."

In 1628 appeared the first work in England specially devoted to military and naval surgery. Some eleven years later a second edition appeared, and this is its title—"Viaticum, being the Pathway to the Surgeon's Chest, containing chirurgical instructions for the younger sort of surgeons imployed in the service of his Majestie or for the Common-Wealth upon any occasion whatsoever intended for the better curing of wounds made by Gunshot," by John Woodall. A perusal of the "Viaticum" shows that Woodall was a very practical surgeon and an eminently religious man, and the way in which he mixes up pills and piety is sometimes very diverting. After some excellent general advice to the surgeon's mate, including a warning against "being given and dedicated to the Pot and Tobacco-pipe in an unreasonable measure," he enumerates the instruments for the Surgeon's Chest, including among others Catlings, Rasours, Trapans, Trafine, Lavatories, Cauterising Irons, Storks bills, Ravens bills, Crowes bills, Terebellum, Probes or flamules, Glister Sirings, and (what would have utterly damned his book in the present day) "one bundle of small German instruments." Then comes a list of medicines under the heading Unguentum, Aqua, Sol, Oleum, Chemicall Oyles, Syrups, Conserva, Electuariæ, and so on, winding up with a list of the Simples and of the Herbs and Roots most fit to be carried. A long and careful description of the uses of the instruments and drugs follows, and then come chapters on wounds, aposthumes, fractures, dislocations, amputation, scurvy, the plague, gangrene, and other topics. He observes that the cauterising irons had gone somewhat out of fashion, and he did not use them much himself "because of the feare they put the Patient into and for speech of people who are ready to scandalise an Artist upon each light occasion." In amputation, moreover, they are "now wholly forborne for reasons aforesaid, and for that a more pleasant course is known better for the patient and the Artist by making a ligature upon the veine, wound, or artery, which is the binding of each end thereof, being first caught and holden with some fit instrument, and tied with a sure and strong thread." Woodall advances the cure of wounds a distinct step, once more putting us under an obligation to the soldier-surgeon. This he does by sharply attacking all through his works the inordinate and meddlesome use of strong caustics.

RICHARD WISEMAN.

I wish I had time to give you a proper account of the adventurous life of Richard Wiseman, who has been termed the Father of English Surgery, and that not without reason. Born in 1620, dying in 1676, he lived in the time of Charles I., of the Commonwealth, and of Charles II. He was a naval surgeon to begin with, serving in the early part of his life in the Dutch navy. Being, however, a devoted Royalist he served with the armies of Charles I., and after his death went into exile with his son in France. He was present at the battle of Worcester, where he was taken prisoner, and afterwards confined in Lambeth House for awhile. During the Commonwealth he was naturally under a cloud, and even went off for three years to serve in the Spanish navy. At the restoration the King did not forget his old surgeon, who had done and suffered so much in his service, but appointed him his surgeon-in-ordinary and afterwards serjeant-surgeon. The first edition of his work, printed in 1672, is quite a small book, and is entitled "A Treatise of Wounds," but it afterwards expanded into a very large volume.

Wiseman believed in the need for giving stimulants to a man who was in the habit of taking them if that man was in a dire strait. After describing the parlous case of a certain patient, it seems that the "man swooned and complained that he could not live without wine. I complied with his desire; he drank again as he pleased, his sickness went off, his wound digested, and he cured. This I have often seen in some of our Dunkirkers at sea, who drank extraordinarily and who were full of drink in our sea fights. I could scarce ever cure them without allowing them wine, and thereby their spirits were kept up and I had the liberty to bleed them as I thought fit." From this it is clear that the old saying about Dutch courage has a distinct origin in fact. But if the unhappy Batavians were liable to be bled at once by the lance of the enemy and the lancet of the surgeon, one can hardly wonder at their taking something to keep their spirits up. When speaking of gunshot wounds he insists upon the bullet being searched for and extracted at once. "The part is at first dressing, with what diligence you can, to be cleared of all such Foreign Bodies as have made violent Intrusion into it, while the patient is warm with the heat of Battel, and the wound fresh and very little altered by either Air or Accidents, so that less pain must necessarily follow upon the extraction. In the *Armada Naval de Dunquerque*, where we Chirurgeons were oft employed in this Service, we after every fight went together visiting one another's wounded men. Amongst us it was thought a great shame if any of this work of Extraction was there to be done. It hath been the cause of the death of many a brave Souldier, and every Battel produces instances of it, to the discredit of our profession." This is good surgery, and I think it must have been a fine spectacle to have seen these old surgeons walking round to see each other's patients and learning how best to mend their mistakes.

BARON LARREY.

[Mr. Banks here referred at some length to Baron Larrey, "the Chirurgien-en-Chef de la Grande Armée, the friend and body surgeon of Napoleon, the greatest military surgeon that ever lived," of whom he said in concluding,]

The retreat from Moscow called into play all Larrey's resources, and many an interesting story could be told of his efforts. Think of the awful battle of the Borodino, where under Larrey's own direction 200 amputations were performed, where there were neither couches nor blankets nor covering of any kind, and where the food consisted of horseflesh, cabbage stalks, and a few potatoes; think of cold so intense that the instruments requisite for the operations too often tumbled from the powerless hands of the French surgeons. Larrey succeeded in getting over the Beresina with the Imperial Guard, but discovered that the requisites for the sick and wounded had been left on the other side. At once he re-crossed the river only to find himself in the midst of a furious struggling crowd. He was on the point of being crushed to death when providentially the soldiers recognised him. No sooner did they do so than they carried him across the river in their arms, with the cry, "Let us save him who saved us!" and forgot their own safety in their desire to preserve the man whose tender kindness they had so often experienced. Following his adored master through victory and defeat Larrey at last stood at night on the field of Waterloo alone, except for some medical officers and the wounded who lay groaning around them. Down upon them came a squadron of Prussian lancers. Expecting no quarter he fired his pistols at them and galloped away. They shot his horse and sabred him as he lay on the ground. Leaving him apparently dead they went off; but he recovered his senses, and tried to crawl by cross roads into France. Again he was seized by another detachment of Prussian cavalry. They robbed him promptly of all he possessed, and took him before a superior officer, who ordered him to be shot. What a reward from a soldier to one whose life had been passed in succouring soldiers! About a quarter of an hour before the sentence was to be carried out a surgeon-major recognised Larrey.

He had attended with deep interest a course of lectures which Larrey had delivered in Berlin six years previously. The prisoner was brought before Bulow, and finally presented to Blücher, whose son in the Austrian campaign had been badly wounded and captured by the French, and who owed his life to Larrey's exertions. Larrey's honourable and glorious life terminated in 1842. Napoleon, when he made his will at St. Helena, wrote in it: "I bequeath to the Surgeon-in-Chief of the French Army, Larrey, 100,000 francs. He is the most virtuous man I have ever known." From Napoleon's lips the words of free spontaneous, ungrudging praise such as this rarely fell.

PESTILENCE MORE DEADLY THAN THE SWORD.

In the middle of last century, while surgery had distinctly improved, the gross neglect of the Government and the pig-headed obstinacy of the generals was such that our unfortunate soldiers and sailors were hardly any better off than they were in the days of Paré. It has been maintained that Smollett, in the appalling picture of naval life as witnessed in the miserable expedition to Carthagena which he drew in "Roderick Random," and which is known to have been the record of his own experience as a surgeon's mate, grossly exaggerated the evils thereof. I do not believe this. Look at the awful and unsuccessful expedition to Portobello in 1726, when nearly the whole of the crews of the ships were destroyed by fever three times over; where two admirals, ten captains, fifty lieutenants, and about 3000 to 4000 inferior officers and men perished without striking a blow. Look at the taking of Havannah in 1762. The Earl of Albemarle took with him in the fleet 11,000 soldiers. Between June and the middle of October, when Cuba was ours, we had lost 560 men by wounds and 4708 by sickness. At the end of the Seven Years' War a statement was drawn up in the "Annual Register" for 1763 from which it appeared that in all the naval battles of that war there were but 1512 sailors and marines killed, while 133,738 had died from disease or were "missing." Look even at the end of last century and consider the wretched and disgraceful Walcheren campaign. Never did our poor soldiers fight with more gallantry than in that campaign, only to perish beside Dutch ditches and canals from fever and ague and dysentery.

MILITARY COURAGE.

As we have just seen, Baron Larrey's whole life shows that, while absolutely devoted to the work of his profession, he displayed a cool courage on the field of battle not less heroic than the more dazzling deeds of his fellow combatant officers. Not less does it mark the military surgeon of the present day. Have you ever heard of Surgeon Thomson who, during the Crimean War, when the army marched off after the battle of the Alma, volunteered, with his servant, John McGrath, to remain behind on the open field with 500 terribly wounded Russians, and passed three awful days and nights—these two Englishmen alone—among foreign foes, some dead, some dying, and none able to raise a hand to help themselves? Have you ever heard of Assistant-Surgeon Wolseley, of the 20th Regiment, who, at the battle of Inkerman, had quietly established his field hospital in that awful place, the Sandbag Battery? When the 150 men, who were all that remained of its defenders, were forced to desert it, about 100 of them fell back in one direction, and in that they found, at thirty paces from them, a Russian battalion blocking their path. There was not a combatant officer left, so the assistant surgeon took command. He had not even a sword with him, but, laying hold of a firelock with a fixed bayonet on it, he spoke a few words to the men within range of his voice, and told them that what they now had to fight for was not victory but life. Then he gave them the word of command: "Fix bayonets, charge, and keep up the hill." The soldiers answered him with a burst of hurrahs, sprang forward to the charge, and the next instant were tearing through the thickest of the Russians. One half of these reached the other side alive. Have you ever heard of Surgeon Landon, who was shot through the spine while attending to the wounded on Majuba Hill? His legs were paralysed, but he caused himself to be propped up, and continued his merciful work till his strength ebbed away. When unable for more he quietly said: "I am dying, do what you can for the wounded." Have you ever heard of Surgeon-Captain Whitchurch, who gained the Victoria Cross at the beleaguering of Chitral for the most determined courage in endeavouring to save the life of Major Baird? Yes, you have, for last year at Carlisle you gave him the gold medal of the Association, the highest honour which our Association can give to its members. There died the other day a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses in the street commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword, and, calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Surgeon Reade was a Canadian, and the son of a colonel of the Canadian Militia. Of the 118 wearers of the Victoria Cross 14 are surgeons—nearly 12 per cent. of the whole number. They stand in the proportion of 9½ per cent. of all the officers of the army, so at all events they have contributed not less than their fair share of the deeds of valour which alone can win that glorious distinction.

THE ARMY MEDICAL SERVICE TO-DAY.

I have diverged from the beaten track common to the givers of addresses such as this to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who have in their day enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day Her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly-fledged doctors for its army. And why? Because it has always treated the Indian Medical Service liberally and generously. I am not going to enter into the reasons for this; I desire merely to emphasise one point—namely, that money is not at the bottom of this difficulty. The soldier-surgeons of to-day are the same men now that they were in the days of William Clowes, who winds up his book, as I shall my address, with these verses:—

"When valiant Mars, with brave and warlike band,
In foughten field with sword and shield doth stand,
May there be mist a surgeon that is good,
To salve your wounds and eke to stay your bloud.

"To cure you sure he will have watchful eie,
And with such wights he means to live and die,
So that againe you must augment his store,
And having this he will request no more."

A FURTHER COMMUNICATION ON THE OCCURRENCE OF A HITHERTO UNDESCRIBED FORM OF CHRONIC NEPHRITIS UNASSOCIATED WITH ALBUMINURIA.[1]

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IN two previous communications on this subject[2] I drew attention to a small group of personally studied cases of evident chronic nephritis, in all of which, with quite similar clinical characters, the urine was persistently albumin-free during the period in which they were under observation. I regarded these cases as representing, perhaps, a not uncommon, although hitherto unrecognised, variety of nephritis, the symptoms of which in all agreed more or less in certain important particulars. The character of these

[1] Read before the Association of American Physicians at Washington, May, 1897.

[2] On the Occurrence of a Form of Chronic Bright's Disease Other than Typical Fibroid Kidney, without Albuminuria, Transactions of the First Pan-American Congress, and the American Journal of the Medical Sciences, December, 1893. Further Remarks on the Occurrence of a Form of Non-albuminous Nephritis other than Typical Fibroid Kidney, Transactions of the College of Physicians, 1894, and the "Medical News," April 14th, 1894.

were such, I remarked, as to place them clinically without the boundary of the well-known varieties of the so-called Bright's diseases, such as chronic desquamative nephritis and the fibroid or granular kidney.

Concerning the absence of albumin in chronic nephritis I pointed out that it had been long known that cases of fibroid kidney could occur, especially in the early stages of the malady, without albumin in the urine, or with albumin existing, if constant, only in traces, or to be found in certain portions of the twenty-four-hours urine. I said that the occurrence of typical granular kidney without albuminuria had been first noted by Wilks, of Guy's Hospital, nearly half a century ago, but it was Mahomed, some three decades later, who especially investigated cases of this phase of the disease, describing a considerable number of them in Guy's Hospital Reports for 1879 and 1880–81. But it was doubtful if many of Mahomed's cases, such as I cited, were actually cases of renal disease, though they could be properly included in the category of chronic Bright's disease as Mahomed employed the term. The symptoms of numerous of these were in the main referable to other organs, and in a minority of those in which a necropsy was obtained the kidneys were stated to be normal.

Cases of chronic nephritis occurring other than at the degenerative period of life, in which, without evident indications of accompanying arterial sclerosis, and in which the symptoms were so frankly of kidney origin as to indicate that the affection was beyond everything else a primary renal disease, to which changes in the vascular system were subsidiary and in all probability a result of a toxic blood state induced by the imperfect functioning of the damaged kidneys, were not recognised by Wilks or by Mahomed, and their even rare occurrence is still regarded by many as apocryphal. If such a case with pronounced symptoms is accepted to be one of nephritis, it is commonly thought that the absence of albumin, if such is proved, is either an ephemeral condition or that the ailment as yet is too limited in its seat and too early in its course for albumin to appear. It was to such cases as these that I especially directed attention, reporting a small group in which the symptoms were so distinct and separable from those of the well recognised forms of nephritis as to indicate for it a distinct pathology. As to these symptoms I stated in my former paper that "with an oliguria as persistent and as marked in certain cases as in the most outspoken type of chronic parenchymatous nephritis, and with a urine as concentrated, yet with absence of cardiac debility and of dropsy to indicate its source, there occur as grave continuous symptoms of renal inadequacy—those, indeed, of pronounced uræmia. These are associated, too, as in chronic parenchymatous nephritis, with as marked diminution in urinary solids, notably diminution in urea and mineral ingredients, indicating undoubted secretory involvement; yet totally unlike what is distinctive of parenchymatous nephritis, albumin is so persistently absent from the urine, even with the existence of the aggravated symptoms of renal incompetency, as to clearly indicate that its presence need form no part of the assemblage of symptoms or have any relation to the morbid condition."

There must exist some radical pathological difference in the renal condition of such cases in which, whether with or without the presence of albumin in the urine, but with the constant occurrence of casts, and more or less steady diminution in the excretion of urea, symptoms of retention of nitrogenous waste are totally absent, even though there may be present a typical retinitis Brightii, indicating that the disease is in an advanced stage. I recently studied several cases of this sort for Dr. L. Webster Fox, in three of which symptoms referable to the kidney were totally absent. Headache did not occur, vertigo was uncommon, and the general health was quite well preserved. The patients regarded themselves as in good health apart from failing vision. In all Dr. Fox had encountered what he termed "non-albuminuric retinitis." In one case "the right eye was a mass of retinal hæmorrhages, with here and there colloid degeneration, so characteristic of morbus Brightii"; in the other cases a quite similar retinal condition was evident. Albumin had been found absent in a number of examinations made both by Dr. Fox and the attending physician of the cases. In the urine of one of the three I found in several examinations a trace of albumin; this was evident to the heat test, and trichloracetic acid gave an instantaneous sharp ring. In the others traces of albumin were absent to heat. These cases clinically rather fell into the category of those described by Wilks and by Mahomed, in which, perhaps, with extensive renal fibrosis, the excretion of toxic products was not far from the normal. Of the personally studied cases I reported, unfortunately but one has remained under observation to the present. The others were studied for one month in one case, three months in another, and from six months to four years in the remainder. Whether any of those that disappeared from observation have died in the interim, or, if living, changes have occurred in the character of the symptoms, in all save one, a brother of the case specially detailed, is quite unknown to me. Of the pathological conditions in the kidney of this case (Case 2 of the series described) I am able to make a report. This is of special interest, since the case may be regarded to be clinically a good example of this group.

The patient was a man, aged thirty-four years.[3] He first came under observation in the early part of 1893. Symptoms of his ailment had then existed for about two years. These were, briefly, more or less severe headaches and spells of vertigo. There had been from the first more or less prostration of strength, with incapacity for physical or mental exertion. This physical weakness had greatly increased in the last two years. But slight continuous exercise of mind or body induced severe headache, with vertigo and a sensation of great body weariness. There had been a tendency to more or less loin tire, and often to actual ache. There was also disturbed sleep, during which night terrors were common and limited clonic spasms occurred. The blood-pressure was habitually very high, the sphygmograms showing always a pulse of markedly raised tension. During the early period in which he was under observation a strictly vegetable diet, on which he was placed for a few weeks, greatly lowered blood-pressure, so that it became practically normal. This diet could not be continued on account of the dyspeptic symptoms originated by the food and the marked oxaluria so induced. The patient had lost 20 lb. in weight during the first two years of his ailment. This loss had not been regained. There had been no decided anæmia evident. Blood examinations made at intervals commonly showed a nearly normal blood-count. The skin was more or less habitually dry, and the complexion the past three years had been of a decidedly sallow hue. Debility, headaches, and vertigo were so prominent in this case, and these and other symptoms were always so aggravated on exertion, that although previously when in good health he had led a most active life he had been compelled to abandon his pursuits and become against his will a valetudinarian. Remedial measures had been of no permanent value for the relief of the symptoms. The urine had always been free from albumin to the present, excepting immediately succeeding the reni-puncture and excision of the small portion of the kidney. The urine had from the first been habitually much diminished in amount. When he first came under observation his habits were, as now, very methodical, and taking almost daily the same quantity of food and fluid the urine, measured for seven or more consecutive days, at intervals of a month, stood steadily between 700 and 800 c.c. The past year between 500 and 600 c.c. were more common. The amount voided in twenty-four hours not being known a single specimen as concerns colour, specific gravity, and absence of albumin would be regarded as normal. Even under thyroid extract and other remedies, the use of which tends to increase nitrogenous output, urea excretion had been very low, rarely exceeding 15 grammes. It commonly, estimated over long periods, ran between 13 and 15 grammes, about half the normal output for a person of his weight on the diet employed. Uric acid elimination was normal; at times it was a trifle high; the chlorides, as in all of these cases, were, as with the urea, habitually diminished in amount.[4] Microscopically the urine was found to invariably contain cylindroids, commonly in some amount. Hyaline casts were usual, and granular-hyaline, or finely granular, were not rare. Occasionally epithelial casts are found. Free uric acid and calcium oxalate crystals are common. As the specimens examined microscopically were commonly those of the mixed twenty-four-hours urine, which had stood for some little time after voiding, the presence of these could not be regarded as of significance. It is, however, a fact worthy of note that in all of these cases calcium oxalate and free uric acid crystals were frequently

[3] For more detailed history of this case see the American Journal of the Medical Sciences, December, 1893, p. 665.

[4] Diminished output of chlorine, in face of a normal or lessened HCl secretion, as had been ascertained in this and in several other of the cases, is of special significance, as was remarked in my previous paper.

seen in the specimens examined shortly after voiding. Irritability of the bladder, such as is usual with a free output of uric acid of the oxalates, had never been present. So much was this absent here that the patient not only never arose at night to urinate, but almost never emptied the bladder oftener than two or three times in the twenty-four hours. As in the other cases, albumin was never present in any of the examinations in amount to be detected by the application of the most reliable of all methods for its detection—heat, and the subsequent employment of acetic acid. By the more refined and less accurate tests, such as trichloracetic acid, the urine gave no instantaneous reaction. Commonly, with the employment of a super saturated solution, a response only occurred at the expiration of from one half minute to several minutes, and then was slight in character. This, as I have elsewhere shown, is usual in all normal urines. My own urine and that of several other healthy individuals working in my laboratory, often tested coincidently, commonly showed a more marked response to trichloracetic acid.[5] Recently I was fortunate in securing a section from one of the kidneys in this patient for pathological study. This opportunity was suggested by the results obtained by Reginald Harrison in his cases recently reported, in which rent-puncture, and slitting a too tightly distended capsule in cases of extreme congestion of the kidney, occurring in the course of nephritis, had been followed by decided symptomatic relief. Although slight benefit was to be expected from such a procedure in this case, and but scant hope of it extended, the patient acquiesced, and Dr. Keen exposed one of the kidneys, depleted it by spearing, slit the capsule, and subsequently removing a small section of the organ for histological examination. The kidney was of normal size, but extremely hyperæmic. Despite this congestion, immediately before etherisation a specimen of urine obtained was still found to be free from albumin, although cylindroids abounded and hyaline casts were moderately numerous. For several weeks succeeding operation the urine contained albumin, as might be supposed. During this time there were abundant blood-corpuscles, blood-casts, and a profusion of epithelial, granular, and hyaline casts present in all specimens. The albumin gradually diminished in amount, and finally disappeared at the end of a month. Although the patient was somewhat buoyed with hope no benefit followed the operation. On the contrary, there has recently been an aggravation in his symptoms. The specimen removed was submitted to Dr. A. O. J. Kelly for examination who reported as follows: "The bloodvessels are distended and generally filled with blood. The intima in some few isolated places shows a slight proliferation of the endothelial lining. The media is thickened and stains rather homogeneously. It is, however, the adventitia that is especially involved. It is greatly thickened, and from it as a focus there proceed in various directions radiations of homogeneously staining connective tissue. In some places this perivascular connective-tissue overgrowth extends quite a little distance from the vessel, and it is here and there the seat of a slight round cell infiltration, though usually this is not evident and is never marked. This connective-tissue overgrowth is also present in areas in which no blood-vessels can be seen, but it is doubtless connected with blood-vessels that do not appear in the section. It is especially evident about blood-vessels in the neighbourhood of the glomeruli. The capsule of Bowman is associated in the process; it is thickened and rarely, if ever, shows any cellular infiltration. Thus originating about the blood-vessels near the glomeruli, involving the capsule of Bowman, this sclerosis spreads to a limited extent and surrounds the uriniferous tubules in the neighbourhood. The epithelial lining of the capsule of Bowman is frequently proliferated, and in some instances is free, doubtlessly artificially produced. Many of the convoluted tubules show a slight degree of degeneration; the epithelial cells are more granular than is normal; in many instances the lumen of the tubule is filled, and not rarely the nuclei stain imperfectly, exceptionally failing to take the stain at all. Not rarely formations resembling casts are seen. There are other more extensive areas of sclerosis in which the bands of connective tissue are much thicker, and in the midst of which the uriniferous tubules are smaller, not a few atrophic, and now and then one is seen obliterated. In a few places there is a very marked proliferation of the epithelial lining of the glomeruli and great thickening of the capsule of Bowman. From this latter the connective tissue overgrowth extends quite a distance surrounding the uriniferous tubules. The tufts of bloodvessels in the glomeruli are usually distended. In those glomeruli, however, about which there is such an excessive overgrowth of connective tissue they are diminished in size and at times quite atrophic. Exceptionally one notes a roundish area faintly fibrillar, containing not a few slightly staining round cells, the whole being suggestive of an obliterated glomerulus or blood-vessel." Microscopic sections of the kidney were submitted to Professor William H. Welch, of the Johns Hopkins Medical School, who reported in substance that he could confirm Dr. Kelly's observations of chronic interstitial changes as stated. The changes, according to Dr. Welch, although of slight extent, were unquestionably evident, and consisted of new growths of connective tissue about certain of the blood-vessels and some of the glomeruli, with atrophy here and there of a few tubes and a few glomeruli. Here and there also he noted a slight thickening of the intima of the blood-vessels.

In discussing in my first paper the probable pathological renal condition which underlay these cases I remarked that although the assemblage of symptoms was typical of no distinct form of chronic nephritis their trend was suggestive of granular kidney. But they had in common several points, the mingling of which in granular kidney has before been undescribed, such as absence of marked cardio-vascular change and of dropsy, with habitual diminution in the amount of urine and in the urinary solids, and especially in urea, together with the presence of obtrusive signs of a toxic blood state. Unfortunately, we know too little of the intimate physiological processes occurring in the kidneys in health and disease to more than conjecture as to the mode of production of symptoms from what to us is evident in the post-mortem condition. Although the gross changes present in this kidney may not be regarded as sufficiently marked in any one direction to readily explain the symptomatic condition, they are, in certain particulars at least, suggestive. In first reporting these cases I remarked as to the pathological renal condition, that there might be present glomerular changes of the nature of thickening of the capsule of the Malpighian tufts and of the afferent vessels, which could account for the diminution in the amount of urine voided—a symptom common in these cases, and not rare in others of supposed granular kidney in which dropsy is absent. Mahomed had thought that absence of albumin in certain cases of chronic nephritis might be due to a similar thickening of the vessels of the tufts, through which it would be difficult for albumin to pass, and also to thickening of Bowman's capsule, preventing distension of the vessels. It is significant, at least, that such thickening of vessels and of Bowman's capsule is, according to Dr. Kelly, usual in the specimen. Whether, however, it exists to such a general extent as to cause obvious symptoms, otherwise apparently inexplicable, is questionable. The absence of numerous granular, and especially of epithelial, casts, was strongly against decided changes in the tubules, and yet, as in all, the habitual imperfect elimination in nitrogenous waste, with symptoms resulting therefrom, point strongly to alteration in the secretory epithelia of the tubular system, which changes, since not marked microscopically, must, perhaps, be rather of a molecular or bio-chemical nature. Present indications support the view of Luff[6] that a long-continued so-called functional affection of the epithelium of the convoluted tubules may antedate those cases of gout in which structural alteration in the kidney is not evident. This change, although molecular, may be none the less evident in its effect; a similar involvement of that part of the tubular system concerned in the elimination of these toxins, the undue retention of which induces a uræmic blood state, may be the chief pathological condition underlying the symptoms in those cases of nephritis in which intoxication is evident without marked apparent implication of the secretory system of the kidney to account for the symptoms. So little is known of the intimate nature of the toxins inducing so-called uræmia, whether they are always similar poisons and not foreign to the organism in health, such as bodies allied to the xanthin group, the toxicity of

[5] Many of the examinations in the past year in this case, both chemical and microscopic, were made for me by Dr. A. A. Ghriskey, to whom I am much indebted. It is needless here to describe the technique employed in the examinations for albumin in these cases. This is given in detail in my previous papers.

[6] See Gulstonian Lectures on the Pathology of Gout, THE LANCET, April 3rd, 1897, p. 944.

which is little if at all apparent without damaged kidneys, because of its free elimination, or whether they be substances unknown normally, which are generated either in the kidney or on the other side of it, in the organism, from waste products in themselves harmless, is at present conjectural. Our knowledge is, indeed, but conjecture as to the mode of origin and manner of excretion of such waste products as urea and uric acid and the allied xanthin derivatives. At present the trend of evidence is in favour of the view that except in conditions of hyperleucocytosis uric acid is formed only in the kidney, and, perhaps, by the epithelium of the convoluted tubules, which is concerned, too, in its subsequent excretion. It is held on good evidence that uric acid excretion is commonly deficient in gout, and that its accumulation in the blood, through imperfect elimination, is one of the causes of an outbreak of the malady. This is the view of Garrod, of William Roberts, of Levison,[7] and others. This faulty elimination is now regarded as probably due in nearly all cases to preceding disease of that portion of the kidney concerned in the excretion of uric acid. Such changes, as has been said, are looked upon in certain instances as being at first merely functional. As concerns intimate knowledge of urea formation and its mode of excretion we are still somewhat in the dark. Apparently its seat of formation is the liver and its source the proteids of the food. Some experiments I recently began (the details of which, as they are yet but in their incipiency, I shall not here give) as to the influence of urea ingestion on urea excretion in the subjects of chronic nephritis tend to show that diminished urea excretion in at least some cases of nephritis, and those, too, with frankly damaged kidneys, is not so much the result of urea retention as it is of deficient formation. If subsequent experiments support these results the situation will still be more perplexing. This suggests either that the long overtaxed, crippled kidney has gradually called a halt on urea formation in the liver, although the nitrogenous intake remained high, and the digestive condition for its transformation into soluble products, the supposed antecedents of urea, remains good, or that the kidney itself is at least somewhat concerned in urea formation, and that its seat of formation here, as with uric acid, may not also be the seat of its excretion.

The purposes of this paper do not permit of a discussion of these problems, which are mentioned here merely to point out our lack of knowledge of many points in the pathology of chronic nephritis. The most important practical point in the matter is the recognition of such cases as I have described, occurring as they do with an albumin-free urine, a single specimen of which as regards absence of albumin and as regards colour and specific gravity might be viewed as normal. I need not here again call attention to the necessity for searching microscopical examination of the urine for morphological kidney elements, which steadily evident cannot but indicate structural change. The constant presence of casts can have but one meaning when associated with imperfect elimination of urinary solids, such as urea, and with the occurrence of such symptoms arising from inadequate kidneys, such as headache, vertigo, debility, and persistent presence of raised blood pressure.

Philadelphia.

[7] Levison believes that renal diseases always antedate gout, and that such disease has its seat in the epithelium of the convoluted tubules. He holds that this portion of the kidney is the starting place of granular kidney, from which such interstitial changes as occur are secondary. Greenfield regards the glomeruli as the seat of the incidence of granular kidney, from which the degeneration in the epithelium of the convoluted tubules and the connective-tissue changes are secondary.

FOREIGN UNIVERSITY INTELLIGENCE. — *Jena:* Dr. Richard Neumeister, Extraordinary Professor of Physiological Chemistry, has retired.—*Königsberg:* Dr. E. von Esmarch, Extraordinary Professor of Hygiene and Bacteriology, has been appointed to the chair of Hygiene. The chair of Gynæcology is still vacant as it has been declined by Professor Bumm, of Basle.—*Marburg:* Dr. A. Schirmer, of Basle, has been appointed to the newly-established Professorship of Odontology. Dr. A. Dubler, Extraordinary Professor of Pathological Anatomy and Bacteriology, has been obliged, owing to the weak state of his health, to retire.—*Vienna:* Dr. Hugo Wintersteiner has been recognised as *privat-docent* in Ophthalmology.

CURATIVE TREATMENT OF VAGINAL HYDROCELE BY THE INJECTION OF SOLUTION OF CORROSIVE SUBLIMATE.

BY JAMES MILLER, L.S.A. LOND., L.F.P.S. GLASG.,
VISITING SURGEON TO THE SOUTH LAMBETH, CLAPHAM, STOCKWELL, AND NORTH BRIXTON DISPENSARY.

"THE improvements in surgery within the present century are undoubtedly numerous and of considerable importance; but as the art is still progressive it seems the duty of every practitioner to memorise whatever by experience he finds useful, and to endeavour to increase a fund of knowledge which successive observations have gradually accumulated." So, in 1796, wrote James Earle, senior surgeon to St. Bartholomew's Hospital, and it is just as true in 1897 as it was over a century ago. It is this "duty of every practitioner to memorise what he finds useful" that must be my excuse for again bringing forward a subject which, though simple in itself, has even of late given rise to a fair amount of controversy—viz., the treatment of hydrocele of the tunica vaginalis. In 1886 I recorded in THE LANCET[1] four cases which I had treated by the injection of solution of corrosive sublimate. This treatment gives no more inconvenience to the patient than the simple tapping, as after drawing off the fluid the solution is injected into the sac of the tunica vaginalis before the cannula is withdrawn. I have since had the opportunity of treating four other cases with complete success, and to gather notes of nine cases so treated by other surgeons since the publication of my paper in 1886.

CASE 5.—The patient, a man, aged forty years, was sent to me for operation by Mr. Weston. He had been troubled with a hydrocele on the right side for some months. On Aug. 4th, 1888, having withdrawn the hydrocele fluid, I injected fifteen minims of the one-grain-to-the-ounce solution = $\frac{1}{32}$ grain of the salt. He was highly nervous and fainted with the tapping, but he soon rallied. I saw him again on Nov. 10th, 1888. The hydrocele of the tunica vaginalis had all gone, and the testicle was felt in its normal position. He was quite well, and had only stayed away from work one day. There was, however, a small fluctuating swelling between the external ring and the testicle on the right side, which moved a little up and down, but did not disappear in any position. There was no pain, and the swelling had come on gradually as the former one had gone. As it was not large it was left alone for a time. On Aug. 1st, 1892, he came to me saying that the small swelling had grown larger and was beginning to give him trouble. On examination there was found a globular tumour, tense and fluctuating, evidently a hydrocele of the cord. I tapped it, and drew off three ounces of fluid, and injected as for the hydrocele of the tunica vaginalis. On the 4th there was a recurrence of the swelling, but no pain, and the patient had not been prevented from working. I saw him again on the 16th, and the swelling had all gone.

CASE 6.—The patient, a man, aged forty-six years, came to me on Dec. 20th, 1889. About fifteen years previously he hurt his testicles and was laid up for a few days. Soon afterwards he noticed that the testicle on the right side was larger than it used to be, but there was no pain. It thus remained until about five weeks before, when it began to increase rapidly. He was tapped, and eighteen ounces of hydrocele fluid were taken away, and fifteen minims of solution were injected. I saw him on the 23rd, and there was a good amount of re-accumulation, but the patient said it was smaller then than it was the day before. I saw him again at the end of three weeks, when the fluid had all been reabsorbed and the scrotum was quite natural. He did not lose any time from his work, and at the beginning of 1896, when I last heard of him, he was quite well.

CASE 7.—On March 1st, 1890, a man, aged forty years, came to me. Five years before he had noticed a swelling of the right testicle, which was tapped after six months, and seven ounces of fluid came away. He was tapped again nine months later, and the same amount of fluid came away. The right side again swelled, but not so much. About twelve

[1] THE LANCET, Dec. 4th, 1886, p. 1072.

months after the second tapping the left side of the scrotum began to swell, and had gone on increasing until the present time. There was now a large hydrocele on the left side, and he complained of a dragging pain in the groins for the last three weeks. He was tapped and ten ounces of blood-stained fluid of specific gravity 1025 were removed, and the microscope showed blood corpuscle. He was injected with 20 minims of the solution. On the 5th the scrotum was swollen and of a dull red colour. The patient said that on the 2nd the scrotum was nearly as large as before it was tapped. It had become smaller since, the fluid being re-absorbed. On the 8th it was much smaller. By April 19th the fluid had re-accumulated; the swelling was tapped again, and eight ounces of fluid were removed and 15 minims of the solution were injected. On the 22nd the patient was going on all right, and from this date the swelling gradually disappeared. At the present time there is no sign of it.

CASE 8.—The child of a neighbouring medical man, aged three months, in November, 1883, developed a hydrocele of the tunica vaginalis. Evaporating lotions were tried, but there was no result. The fluid was therefore drawn off and 10 minims of the solution were injected. In a few days the swelling had all disappeared, and there has been no return of it.

Remarks.—In addition to these eight cases of my own I have been able to gather the following. In 1887 Dr. Wintle, of Forest-hill, S.E., treated a case with injection of solution of corrosive sublimate with perfect success. This case, he states, "had previously resisted every sort of treatment." In 1889 Mr. Hind, of St. Heliers, Jersey, mentions four cases which he had treated with injection of solution of corrosive sublimate, all of which were cured.[2] In the same year Dr. Barnard, of Alderney, mentions three cases treated by the same method, and in none of which was there any return of the hydrocele.[3] In October, 1895, Mr. Swinford Edwards, at the general meeting of the Medical Society of London, during a discussion on the Radical Cure of Hydrocele by Excision of the Sac, related a case of a medical man who had cured himself of a hydrocele by the injection of solution of corrosive sublimate, one grain to the ounce. In November, 1895, Mr. N. W. Holmes records a case[4] of a man, sixty-eight years of age, whom he treated by the injection of corrosive sublimate, and there was no return of the hydrocele. A second case was sent to me by Mr. Weston and was treated in the usual way, but he left England for Canada three days later, and as I have no after-knowledge of the case I do not include it in this review.

I should also say that in Case No. 2 recorded in my former paper there was a return in 1889. It was treated as before, and the surgeon who had the patient under treatment at the beginning of last year informs me that there was no sign of any hydrocele then.

We have here, therefore, the history of seventeen cases, all cured by the use of this injection, only two of which had to be operated on a second time. In a paper by Mr. Lockwood,[5] giving a report for ten years of cases operated upon at St. Bartholomew's Hospital, he says: "Seventy-four patients were treated by injection; in five of these the results were doubtful and were not cured when last seen. In twenty-four the injection had undoubtedly failed. The injections used were iodine, black wash, and carbolic acid. Thus the chances of relapse after an attempt at cure by injection are very considerable, rather over 32 per cent., according to the statistics of St. Bartholomew's Hospital. Evidently the operation is not one to be recommended with confidence." This is certainly not very encouraging for treatment by injection, but I should like to see a further trial given to injection by substituting the solution of corrosive sublimate for the various other medicaments which have been used. The most convenient strength for the solution is one grain to the ounce, of which, after the withdrawal of the hydrocele fluid, 15 minims (= $\frac{1}{32}$ grain of the salt) are to be injected into the tunica vaginalis and left in. There is very seldom any pain, and if there is any it is easily allayed by the application to the scrotum of a little belladonna liniment. In the course of two days there is a re-accumulation of fluid (which may somewhat disappoint the patient), but on the third day this usually begins to be reabsorbed, and the whole thing subsides in the next few days. If treated in this way there is no need for the patient to discontinue his employment. If more of the salt is used it usually produces an excessive amount of inflammation in the scrotum and a corresponding amount of systemic disturbance. In the case reported by Mr. Holmes, referred to above, there was a good deal of inflammation and systemic disturbance, which necessitated the patient keeping his bed for three days, but this I should attribute to the amount of the salt used, viz.: $\frac{1}{8}$ grain instead of $\frac{1}{32}$ grain. The same thing occurred in Dr. Wintle's case, and also in Case 7 as above. As to the cases that are suitable for the treatment, I can only say that it has answered perfectly in cases from the age of three months to sixty-eight years, and as well for the old-standing hydrocele with thickened walls as for the newly acquired. If by the minimum amount of palliative treatment we can obtain the maximum result of curative treatment there is certainly a distinct gain. That some cases will fail I make no doubt, but that the percentage of failures will be very much reduced I feel as fully assured.

South Lambeth-road, S.W.

[2] THE LANCET, July 6th, 1889, p. 14.
[3] THE LANCET, July 20th, 1889, p. 147.
[4] THE LANCET, Nov. 16th, 1895, p. 1223.
[5] THE LANCET, Oct. 19th, 1895, p. 968.

A CASE OF LEAD-POISONING COMPLICATED BY ULCERATIVE COLITIS.

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I HAVE thought this case worthy of publication on account of the extreme rarity of the complication.

A man, aged thirty-seven years, was admitted to the Tottenham Hospital on Aug. 14th, 1896, with the following history. He was a painter, but had been out of work, with the exception of the last few days, for some time. About seven years before he had suffered from an attack of lead colic, but with that exception he had been, apart from occasional attacks of "gout," a healthy man. He came to Tottenham Hospital complaining of severe abdominal pain and constipation, which began on Aug. 11th, three days previously. There was much sickness on the 12th, and the pain continued with exacerbations till the day he was admitted. He had then walked up to the hospital, a distance of four miles, accompanied by a friend, and he arrived in a very collapsed state. There had been no action of the bowels since the 10th.

Condition on admission.—The patient was a poorly nourished man, very anæmic, with a sallow complexion. He seemed to be in a collapsed condition; the pupils were equal, contracted, and with slight reaction to light. The teeth were much decayed; the gums of the lower incisors and canines had retracted, presenting a marked blue line, and there was a brown fur on the dorsum of the tongue. The grasp of the hands was good and equal and there were no signs of extensor paralysis. The knee-jerks were present. The pulse (after recovery from the collapse) was 100 and of good tension, and the artery was not rigid. The heart was natural. The abdomen was slightly distended; it moved freely on respiration. General pain, not relieved by pressure, was present, but no tender spot was noted. The urine was of specific gravity 1020, of acid reaction, and with a slight cloud of albumin.

Treatment.—At first a saline purge was administered with iodide of potassium, and on the same night (Aug. 14th) the bowels were opened three times, the motion on the third occasion consisting chiefly of blood. The pain was not relieved by the evacuations. On the 15th the patient had eight actions, consisting of slime with shreds of mucous membrane and a little blood. The pain in the abdomen continued to be severe and there was some tenderness over the ascending colon. Belladonna fomentations were applied, but were discontinued as pressure seemed to increase the pain. The hæmorrhage and diarrhœa continued throughout the 16th, the abdominal pain had ceased, but tenderness was still present over the ascending colon. During the day he passed only nine ounces of urine, which had the same characters as before. The hæmorrhage then ceased, with the exception of two small clots on the 20th, but the diarrhœa (from six to seven actions a day, each action containing some mucous shreds) continued till the evening of the 26th, when he had a large hæmorrhage and, becoming collapsed, died

at noon on the 27th. During the six days preceding his decease the patient's condition became gradually weaker and he was at times delirious, but usually comatose. He could always be roused from the coma by asking questions, and would answer sensibly, then almost at once relapsing into his former condition. Whilst delirious he would mutter to himself, and occasionally groan and cry out, but he never complained of any localised pain. Throughout the illness the temperature only rose on three occasions as high as 99·6° F. and was never below 98°, except on admission, when he was collapsed, and at the time of, and following, the final hæmorrhage, when it fell to 97°.

Necropsy.—The lungs were emphysematous and somewhat congested. The heart and stomach were natural. The small intestines contained a quantity of very offensive fæcal matter. The lower end of the ileum was much congested and contained shallow ulcerated patches not confined to the solitary follicles. The whole of the large intestine presented the characters of an ulcerative colitis. The mucous membrane, which was dark-coloured, was stripped off the bowel in places and hung in shreds. There were no signs of perforation, but the ascending colon was firmly adherent to the capsule of the right kidney. There was no general peritonitis. The liver was small and cirrhotic. The spleen was small and densely hard. The capsule of the kidneys peeled readily and there were no signs of cirrhosis.

Remarks.—The rarity of the complication is shown by the omission of all mention of it in the great majority of text-books. The first account I find is that given by Tanquerel des Planches,[1] in which he says: "Lead colic may be concomitant not only with other lead diseases, but with maladies arising from causes unconnected with lead preparations. These complications exist independent of colic; they are not in the least influenced by the treatment, yet they modify the character of the colic." The complications mentioned are gastritis, enteritis, peritonitis, and dysentery. In a short paragraph in which this writer discusses enteritis as a complication he draws attention[2] to "the swollen abdomen" and to the facts that "pain tends to generalise itself, but is often more acute in parts, constant, increased by pressure, becoming more severe at times" and that "evacuations give no relief." All these points are well brought out in the case above described, and it will be noticed that colic and constipation, two of the most constant symptoms of lead poisoning, were to a great extent obscured by the colitis to which is attributable the localised pain and diarrhœa. Under the head of "Lead Poisoning" Osler[3] mentions a case with similar features to the present one, which came under his care in the Philadelphia Hospital. The patient "had vomiting, constipation at first, afterwards severe diarrhœa and melæna, with distension and tenderness of the abdomen. There were albumin and tube-casts in the urine. The temperature was usually subnormal. Death occurred at the end of the second week. There was found the most intense entero-colitis, with hæmorrhages and exudation. These acute forms develop more frequently in persons recently exposed." With regard to the causation of the colitis, in spite of Tanquerel's statement, above referred to, that the malady arises from causes unconnected with lead preparations, it seems possible that, in some cases at least, lead may be the direct cause. Dr. Oliver[4] says: "It seems to me as if lead first irritated the sympathetic and intestinal ganglia; this is followed by spasm of portions of intestines and arteries." And again[5]: "How far a degree of heightened arterial tension, associated from time to time with the minor attacks of pain in the abdomen and the constipation which so usually accompanies it, aid in developing anæmia or cachexia by causing malnutrition through impeded flow of blood it is impossible to say." Arguing on these lines, then, is it not possible to consider the colitis due to malnutrition of the mucous membrane of the colon, caused by impeded flow of blood through the vessels to the affected parts. Another possible explanation is that lead may, in some cases, have an action on the trophic centres of the cord governing this area, for such centres must assuredly exist. In this connexion Dr. Oliver mentions[6] Oeller's case of lead-palsy where hyperæmia and atrophy of the ganglion cells in the anterior cornua of the grey matter of the cord were demonstrated microscopically.

My thanks are due to Dr. Overend, under whose care the patient was admitted, for permission to publish these notes.

Tottenham.

[1] Dana's Translation, 1848, p. 101.
[2] Ibid., p. 103.
[3] Principles and Practice of Medicine, 1895, p. 1064.
[4] Lead Poisoning, Acute and Chronic (Goulstonian Lectures), p. 39.
[5] Ibid., p. 44.
[6] Ibid., p. 67.

VITALITY.[1]

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VIII.—THE INTERSTITIAL CIRCULATION IN ALL LIVING THINGS (*continued*).

THE constantly flowing currents necessary for the life and increase of the living matter, and instrumental in preserving the integrity and activity of the formed material of the tissues and organs of living forms, originate in, and are maintained by, the particles of living matter (bioplasm) which are seen to be embedded in enormous numbers in all parts of every tissue.

To form a correct idea of the actual arrangement of the particles of the living matter, and to gain a knowledge of the important part they play in connexion with the interstitial circulation, it is necessary to examine very thin sections of the tissue; but in this inquiry it is almost impossible in the case of many very soft textures to obtain the requisite degree of thinness without seriously disturbing the natural relations of the parts. One may often get more accurate information from a careful examination of a naturally thin portion of the tissue, such as is sometimes to be found here and there as an extension from the organ or tissue under investigation. In this the tissue elements and bioplasts, with the capillaries and nerves, will be seen in their natural position, not forming more than a single layer. Such specimens may be made still thinner by careful pressure if the structure has been allowed to soak for some time in glycerine or syrup. Tissues preserved in such media can be examined with very high magnifying powers, and will retain their characters for thirty years or more if carefully mounted. The details of preparation by this method were described in "How to Work with the Microscope," and will also be found in papers in the Transactions of the Royal Microscopical Society many years ago. Dilute solutions of glycerine and syrup in which the fresh specimen is immersed, if kept for some time at a temperature of 100° F., will undergo considerable but very gradual concentration without the relation of the tissue elements to one another being in the slightest degree disturbed. At the same time great transparency is obtained, and very delicate structural points can be clearly demonstrated by the aid of powers magnifying 700 diameters and upwards.

Every organism, as I think I have distinctly proved, every organ, every structure forming part of a living thing, from the smallest to the most colossal forms, from the most ancient to the most recent, consists of matter in two distinct states or conditions—the one *living*, the other *formed*. All the formed material or tissue, however firm or dense and hard and dry, was once in the state of soft, moist bioplasm, living or germinal matter. During this state the arrangements upon which its tissue-characters depend were made. The ultimate form, properties, and composition of all formed material depend upon the vital changes which occurred in the bioplasm before the formed material was produced. So delicate and transparent are some even fully formed tissues that their actual arrangement can hardly be demonstrated with the highest powers. Their structural elements would collapse but for the support they receive from the fluid that lies in the spaces between the delicate fibres. In some organisms even contractile muscular tissue and nerve fibres are transparent and are supported by the fluid medium—the interstitial fluid which during life is always undergoing change—around them. Not only are nutrient matters dissolved in the interstitial fluid, but certain substances formed during the action of the living matter and others from the

[1] Nos. I., II., III., IV., V., VI., and VII. were published in THE LANCET of Feb. 22nd, April 11th, June 13th, Aug. 29th, Oct. 17th, 1896, Jan. 23rd, and July 31st, 1897, respectively.

disintegration of the formed material become mixed with the nutrient matters brought within the sphere of action of the bioplasm for its nutrition. These two classes of substances, the one about to live, the other resulting from changes during life and from the disintegration of that which has lived, are very intimately mixed together in water in which both are dissolved.

The multitudes of the living particles (bioplasts) which exist in all tissues and organs of every living thing, although having very different powers and forming very different matters structurally and chemically, are in all cases the direct descendants of the original living particle of germinal matter or bioplasm which gave rise to each particular individual organism. Every one and every part of one is dependent for nutrition, growth, multiplication, and action—for life itself—upon the free supply of interstitial fluid. Sometimes the living matter is not in distinct, separate, and detached particles, but the little masses are stellate in form and the rays are continuous, so that we have a network of bioplasm extending through the tissues. At an early period of life when a sufficient number of detached or continuous particles of living matter have been produced, formed material begins to appear around and between. After a time the living matter is embedded in this formed material, which has been produced by the bioplasm, and is dependent for the preservation of its integrity upon the free and continual circulation of the interstitial fluid. The more recently developed, the younger bioplasts of a portion of tissue, are larger than the older ones and have a thinner layer of formed material around them. In multitudes of the mature lowest forms of life, and at the earliest period of individual life in all, there may be but a single mass of living matter, generally less, and sometimes very much less, than one-thousandth of an inch in diameter. In many organisms the bioplasm particles are far more minute than this, but in every one and in the formed material around each there is interstitial circulation.

In no tissues that are active are these little particles separated from one another by distances much greater than three or four times their length or diameter, and the intervening formed material is everywhere the seat of interstitial circulation. In parts of many nerve centres and in secreting and other organs where active changes are constant the particles of bioplasm are near together, and in certain structures that are constantly being formed through life even in the adult they almost touch one another. At a very early period of development in all living things, present and past, the whole organism consists of these little bioplasts or particles of living matter so close together that only a thin layer of transparent semi-fluid matter intervenes and enables us to define the several particles. In many situations the bioplasts are in the proportion of millions to a cubic inch of tissue. In the deep layers of the cuticle, on the surface of certain mucous membranes, and in the superficial layer of the cerebral convolutions just beneath the pia mater, they are very close to one another throughout life in health, and in the last situation the interstitial circulation is very active, and special arrangements exist by which a free and rapid interchange of fluid is ensured. Each of the millions upon millions of bioplasts in a moderate-sized organism possesses active vital power and takes part in the interstitial circulation as long as life lasts; each, in fact, causes and is dependent for its life upon the interstitial circulation. Each draws to itself some of the surrounding fluid, selecting and appropriating certain of its constituents, and also yields up to the fluid certain matters that are eventually removed from the organism.

Everything taken up by living matter must be in solution in water, and before substances resulting from disintegration which takes place in every part of living organisms can be removed they must also be dissolved. Water is the principal constituent of all nutrient substances, and is more than the mere vehicle for carrying the solids to their destination. It is always present in large proportion where active growth is proceeding. All active tissues and most passive ones contain it in large proportion, and in rapid changes much is required. Even tissues that seem to be dry contain some water. Fluid containing various matters is found pervading the tissues, not only passing through the interstices, but moistening every part of the anatomical elements, and, as I have before remarked, every form of bioplasm invariably contains much water. It is probable that there is not a molecule—not an atom of the matter of which a living particle is constituted—that is not free to move in all directions amongst its neighbours and coalesce with them by reason of the fluid medium which is essential, if, indeed, water is not actually combined with some of the constituents of living matter.

The proportion of water to the dissolved constituents is largest at an early period of existence when the changes in living matter are most active. The interstitial fluid is always changing in composition, always receiving certain constituents, always giving up some to be converted into living matter, and some to be changed in order that they may be eliminated altogether. In all cases, however, the proportion of water to the solids in the interstitial fluid is so considerable that it usually amounts to more than 95 per cent. A very high state of dilution seems to be universal in the case of solutions taking part in vital phenomena. The smallest quantity of water that is absolutely necessary has not been determined, but it is certain that a very moderate degree of concentration is detrimental, and may cause serious derangement both in the living matter and in the formed material. Solid matters may be deposited in the substance of the tissues, the action of which may be seriously impaired, and the death of the living matter would probably occur before a considerable degree of concentration could be reached.

Wherever the atoms of living matter undergo those wonderful alterations in position and relation to one another which invariably occur preparatory to tissue formation of any kind, and to the production of substances of definite chemical composition and properties, the interstitial circulation is most active; but when tissue and definite substances have been formed, and vital changes are carried on but slowly, locally or generally, as in old age, the interstitial fluid is small in amount, and its movement comparatively slow. In cases where part or the whole of a tissue has become hard and dry, or almost dry, as in the oldest portions of some bony tissues, in fully-formed dentine, enamel, and shell, in the oldest and driest parts of hair, nail, and horn, the interstitial fluid circulation will have entirely ceased and the bioplasm will have disappeared.

In all fully-formed, mature, complex organisms the food substances and water required for growth, nutrition and action are, as we well know, introduced in one part of the body, modified in composition, and then distributed to parts at varying distances from the seat of introduction by special tubes or vessels with very thin walls, which have been formed for the purpose at an early period of development. In some cases the network of minute tubes extends through every part of the entire organism wherever living matter exists. In others the new matter passes into minute vessels soon after it has been introduced, and from these into larger ones, and at last into a single trunk, which perhaps has propelling power or is connected with a special propelling apparatus or heart. The mixed fluid at length reaches other networks of minute vessels, by the thin walls of which a part is filtered into the tissue spaces.[2] This is the interstitial fluid, which is at once brought very near to the bioplasts of the adjacent tissues, by the vital action of which it is caused to be drawn through the layer of formed material around and introduced into the very substance of the living matter. In this way the bioplasm of every one of the millions of elementary parts in every portion of the body of the most complex organisms is freely and regularly supplied with the dilute solution, which contains everything required for nutrition, growth, and the production of formed material and for the production of chemical substances of highly complex composition for special purposes or for elimination.

The weak solution in water from which the living matter obtains all the substances it requires for its life and for conversion into new living matter is caused to flow towards the bioplasm by the vital movements of the bioplasm itself. In this way each individual particle of bioplasm of the most

[2] It is not perfectly correct to say "filtered," for the interstitial fluid is not merely a dilute solution of certain substances which has passed through passive membrane. The so-called nuclei (bioplasts) of the capillary walls take up a solution from the blood, select and appropriate certain suitable matters, convert these into bioplasm, a portion of which soon undergoes change, and a weak solution of the resulting substances becomes the interstitial fluid. This process, in which bioplasm takes up certain substances and converts some into new living matter, a portion of which at the same time becomes resolved into lifeless compounds, really occurs in every particle of living matter through nature, and so far no other way has been discovered in which the various structural and chemical substances characteristic of the various living organisms, their tissues and organs, can be produced in anything that lives.

colossal organisms is as well supplied with what it requires if it is to live and perform its vital acts as the minute individual particle free to move, to grow, and to multiply in a medium laden with the substances upon which it lives dissolved in the proportion of water which suits it.

It will be found that the same principle holds with regard to the vital actions of living things in every department of nature—every particle of living matter being dependent for its life upon an interstitial circulation which is established and sustained by itself, which begins with its life and ceases at its death. In every particle of living matter, then, we have a laboratory without apparatus and without any visible chemist, where analytical and synthetical operations are always being conducted in the most perfect manner. Movements and work proceed without any mechanical appliances and in the absence of any tangible designer, constructor, regulator, governor, or conductor. Here atoms are moved about in all directions, and may be placed above one another notwithstanding the influence of gravitation. Transformation of energy is effected in this clear, colourless, structureless substance, consisting largely of water; and movement, heat, light, electricity, and possibly other modes of motion may be evolved. Moreover, this clear, soft, structureless, living matter is capable of endless multiplication. It also differs from matter in every other known state in that it possesses powers unknown elsewhere, which have been derived from pre-existing living matter and are capable of being transmitted to particles of matter which do not yet live, and this without any loss. These wonderful vital powers, according to Lord Kelvin's most recent computation, have been passing from living to lifeless particles for about 20,000,000 years. If this be so, we may be sure that colourless, structureless, living matter, with its interstitial circulation, has existed for the same period, and that the universal vital characteristics have never ceased or been dormant for a single moment.

(To be continued.)

PUERPERAL ALBUMINURIA AND THE ACTION OF SULPHATE OF QUININE ON THE GRAVID UTERUS.

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I SUBMIT the following cases with the hope that they may be of some interest.

CASE 1.—A primipara, aged twenty-two years, had been pregnant about eight months, and had suffered from œdema of the extremities for one month. This was the short history I obtained at midnight on March 13th, when I was for the first time consulted owing to the sudden onset of severe and frequent convulsive attacks. Half-drachm doses of bromide of potassium somewhat relieved these attacks. On the following morning the patient lay on her back in a stupid half-conscious condition, taking no notice of anything and being unable to answer questions. The tongue was lacerated. There was marked œdema of the extremities, the face, the labia, &c. The abdomen was enlarged, due to the advanced stage of pregnancy. There was an entire absence of any indications of commencing labour. The urine was scanty, pale in colour, and contained, roughly estimated, 20 per cent. of albumin. The bowels were constipated. There was no history of recent attacks of intermittent malarial fever. Compound powder of jalap with elaterium was ordered, also a diuretic mixture and milk and soda-water diet. No quinine was given. This briefly was the case, and the prognosis was not favourable. The marked absence of any indications of approaching labour and the prospect of having to induce it added to the seriousness of the case. On the following day there was a little improvement: the patient answered questions; there was no recurrence of the fits; the urine was less scanty, and the bowels were freely purged, but the œdema was distressing. On the next day there was some further improvement; the œdema was slightly less, but that of the labia had become painful owing to the appearance of sloughs. There were no symptoms of recurrence of convulsions and there was entire absence of any indications of labour. In spite of the slight improvement the case was regarded with anxiety. I leave this case at this stage to pass on to the next.

CASE 2.—On the day after I had seen Case 1 I was called to attend a primipara, aged twenty-four years, in about the eighth month of pregnancy. There was enormous œdema of the upper and lower extremities, the labia, the face, &c. The patient was intensely anæmic, with hurried action of the heart and hæmic murmurs and some dyspnœa. The œdema was of a recent and acute character. The urine was scanty and pale and charged with albumin. There had been no indications of convulsions. Mentally the patient was clear and intelligent. There were no signs of labour. She was, in addition, suffering from intermittent attacks of malarial fever. Treatment on general principles was prescribed, and five-grain powders of sulphate of quinine were given three times daily owing to her attacks of fever. Within forty-eight hours of taking the quinine she was delivered of a still-born child—a desirable result considering her general condition.

To return to Case 1. I ordered and issued six powders of sulphate of quinine of ten grains each, one to be given every fourth hour. I did so with the object of bringing about labour and to test the action of quinine in this direction. I was agreeably surprised at its action. Before the sixth powder was given labour pains had set in, and when I saw the patient she was in the second stage with a normal presentation. In due time she was delivered of a still-born child, large and well developed. The further clinical progress of these cases does not come within the scope of this paper. They both did well.

Remarks.—That quinine can and may induce uterine contractions and thus bring about premature labour or abortion I think there are grounds for believing. This I have before now noted, and it is also the experience of some practitioners with whom I have had opportunities of discussing the subject. I think Case 1 points to this. In treating pregnant women (the subjects of malarial fever) with quinine it is proper always to mention the possibility of abortion or premature labour (more frequently the former) taking place, and to diminish the possibility of such an occurrence one has to administer, and that cautiously, only small doses of this drug. Whether quinine acts directly on the gravid uterus or indirectly through the nerve centres is, perhaps, of no immediate importance, though information on this point would be acceptable. In the available literature on cinchona and its compounds little is said as regards the action of quinine on the uterus. Ringer's "Therapeutics" has the following sentences:—"Quinia is sometimes useful in the vomiting of pregnancy." "American writers believe that quinia strengthens the contractions of the womb during delivery and some use it in preference to ergot." "Other writers deny this action to quinia ..... quinia does not induce premature labour, though some writers have asserted the contrary."

It must be admitted that many women when pregnant take quinine with no evil results whatever. Considering that this drug is largely used in the colonies further information of its action in the direction here indicated would be interesting and valuable.

Trinidad, West Indies.

THE RELATIVE HEIGHTS AND WEIGHTS OF BENGAL PRISONERS.

BY W. J. BUCHANAN, M.B., DIPL. STATE MED. DUB.,
SURGEON-CAPTAIN, INDIAN MEDICAL SERVICE; SUPERINTENDENT, CENTRAL GAOL, BHAGALPUR.

IN THE LANCET of Aug. 24th, 1895 (p. 476), I published a table giving the relative heights and weights of Bengal prisoners. I have since collected a large number of weights and measurements—viz., 28,863—and the result has been to confirm almost absolutely the accuracy of the formula I then published. This formula runs as follows:—"Taking 100 lb. as a normal average weight for a man of 5 ft. add 3 lb. for each inch above that weight—e.g., 5 ft. 3 in. = 109 lb." That this formula gives as accurate an average height as can be expected is also shown, I think, by the fact that the results of examining 5000, 8000, 20,000, and the above total practically correspond, and the

results of a collection of some 7800 cases in the other large gaols in Bengal published in the Administration Report for 1896 are practically identical with the above formula. I have purposely avoided parts of an inch. Mr. Havelock Ellis[1] has shown this to be useless. I must note that these figures have all been taken from prisoners of the peasant class, chiefly from the Behar portion of the Province of Bengal, and are confined to adult men of the ages of from twenty-five to forty years. They do not apply to hill men, Burmese, aboriginal tribes, or to the tall, well-made Rajputs, but are representative of the average Behar and Bengal peasant.

Height.	Weight.	Number of observations.	Percentage.
5 ft.	100 lb.	1863	6·5
5 „ 1 in.	102 „	2059	7·2
5 „ 2 „	106 „	5226	18·0
5 „ 3 „	109 „	5787	20·0
5 „ 4 „	112 „	6107	21·3
5 „ 5 „	115 „	3040	10·0
5 „ 6 „	118 „	2498	8·7
5 „ 7 „	122 „	1389	4·8
5 „ 8 „	125 „	623	2·1
5 „ 9 „	129 „	220	0·7
5 ft. 10 in. to 6 ft.	—	51	0·1

A glance at the second column in the above table will show how closely the weights for height correspond with my formula given above. It will also be seen that one inch in height practically means 3 lb. increase in weight. Lombroso's rule for Italians, beginning with 5 ft. = 110 lb., gives an increase of about 5 lb. per inch for his countrymen; Allen's table of heights and weights for Englishmen gives also about 5 lb. per inch above 5 ft.; that given by Liharzik varies from 3 lb. to 7 lb. These are all the observations of this kind I can lay my hands upon at present. The above table also shows that, taking the Bengal prison population, which fairly represents the peasant classes generally, the vast majority of them are of short stature. Taking, with Mr. Havelock Ellis, heights between 5 ft. 4 in. and 5 ft. 9 in. to be medium, below that short, and above it tall (these of course are European ideas) we find that from an European point of view 51 per cent. would be classed as short, an almost equal number as medium, and almost none as tall. for out of 28 863 men measured I could only collect 51 (0·1 per cent.) of 5 ft. 10 in. and above. I have frequently had prisoners of this height, but they were generally Rajputs, or men of better social position than the average prisoner. I have also found that the average weight of this large number of men was 109 lb. In calculating relative diet scales[2] I took 110 lb. as the average, which is now shown to be practically correct. T. Lewis, F.R.S., put the average weight of the Bengali as 105 lb. The above figures are sufficiently large, I think, to draw safe conclusions from. It is not meant that these figures can be applied accurately to every individual case, but they furnish as accurate as possible a standard for healthy men of this class. Apart from their use in gaols they can be used, as has been the case during this year of famine, to compare the relative health and physique of persons of this class in unhealthy or famine years compared with normal conditions. It is much to be regretted that anthropological figures are not more frequently collected in India.

Buxar, India.

[1] The Nineteenth Century, July, 1897.
[2] THE LANCET, May 2nd, 1896.

LITERARY INTELLIGENCE.—The *American X Ray Journal* is the name of a new monthly journal devoted to the medical and surgical applications of the Roentgen rays. It is published in St. Louis and is edited by Dr. Heber Robarts.

DR. J. ASHBURTON THOMPSON, President of the New South Wales Board of Health, has been elected an honorary Fellow of the Incorporated Society of Medical Officers of Health of Great Britain.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ANEURYSM.

BY F. W. THURNAM, M.B., C.M. EDIN.

A MAN, aged fifty-four years, married, but having no children, decorator, consulted me on Feb. 15th, 1897, complaining of "rheumatic" pains at the back of the head, side of the neck, and towards the right shoulder, with slight cough There was no history of syphilis, and beyond helping to lift a heavy case of goods three months before, which had been followed by an attack of faintness, there was no history of exertion. He was said to have had gout (or rheumatism) many years back. He was ordered a mixture containing salicylate of soda and compound tincture of camphor and a liniment of turpentine and acetic acid. He was allowed to go for a week's change to Epping Forest during the first week in March. No mention had been made to me of a "sensation of internal tumour behind the collar-bone," neither had any swelling been noticed, though looked for, by himself or his wife during the three weeks of its existence. While away, on the evening of March 9th, his neck, shoulder, and upper part of the right chest were rubbed with the liniment by a relative, and though there was much pain no enlargement was seen. Next morning, however, a tumour was clearly visible above the sternal end of the right clavicle. On the 12th over the region of the right sterno-clavicular articulation was a swelling the size of a goose's egg, pulsating and indistinctly expansile, without bruit over the tumour or along the vessels; pain was felt over the site, up the neck, and down the arm, which was somewhat œdematous; the heart's apex was in the fifth space, displaced out to the nipple line; the sounds were faint; there were no murmurs; both the radial arteries were atheromatous; and there was no appreciable difference in their pulses. There were a troublesome hacking cough, some difficulty in swallowing, and alteration in the voice. My diagnosis was aneurysm of the innominate artery. A mixture containing iodide of potassium and tincture of opium was given. On the 15th the patient was seen in consultation with Dr. H. B. Carter, and, to exclude the possibility of abscess, disease of the joint or other growth, an exploratory aspiration was made with a hypodermic needle, but it showed no pus and only withdrew blood. A red blush over the swollen area, with increased fluctuation in the centre, gave the impression that the skin was much thinned. There was exophthalmos of both eyes, more particularly of the right, the pupil of which was more dilated as compared with the left. The ophthalmoscope showed the vessels of the right retina to be more distended than those on the left side. The laryngoscope showed no laryngeal paralysis. The cough was due to irritation by compression of the right recurrent laryngeal nerve. On the 31st the patient was admitted to the London Hospital, under the care of Mr. Hurry Fenwick, to whom my thanks are specially due for the summary of the notes taken during the patient's stay there of one week. "Rapidly growing innominate aneurysm; inoperative; doubled its size while in hospital." On April 7th the patient was discharged from the London Hospital, where an ice-bag had been used which was continued intermittently, as well as the iodide and opium mixture. There was no œdema of the arm at that time. There was slight delirium at night. In May the prominence and extent of the aneurysm seemed to vary; it was generally fuller at night; there were frequent convulsive twitchings of the arm and leg, more so during sleep. The appetite was fairly good, but capricious. As little fluid as possible was allowed in his diet. In June the aneurysm was increasing in size and extending to the left across the episternal notch. There were frequent attacks of sickness and diarrhœa, alternating with constipation. There was more pain in the neck and arm. The patient was confined to bed throughout. In July the position of the right clavicle had become much more pushed downwards than its fellow, and, partly owing to

more tenderness and erythema over the sac, no articulation with the sternum could be made out. In August there were increasing asphyxia, loss of power, and pain in spite of pushed doses of opium, chloral, and bromide, as well as belladonna locally. For the last three days of life there were œdema of both hands and much sweating. His florid complexion was maintained till the morning of his death, for two hours before which there were marked pallor and complete unconsciousness.

Necropsy.—The post-mortem examination was made on Aug. 12th, eleven hours after death. An examination of the chest only was allowed. The aneurysm was of the arch of the aorta, saccular, not diffuse, and there had been no rupture of it. The sac was the size of two fists and extended upwards to above the cricoid cartilage, and, having destroyed the right sterno-clavicular joint, depressed the clavicle and overlapped the right half of the sternum to below its junction with the second rib, the sternal end of the clavicle and the outer and posterior upper portion of the manubrium being completely eroded. The aneurysm commenced just internally to the origin of the innominate artery, which, beyond compression by the sac, was scarcely, if at all, implicated in it.

Remarks.—The points of interest in this case are the sudden appearance of the aneurysm, its rapid growth, and peculiar distribution. The possibility of its being aortic was not lost sight of: but certainly at the time of diagnosis and, indeed, until the extension of the enlargement to the left, two months later, all the symptoms pointed to its having an innominate origin. The one point of consolation is that no operative interference was resorted to.

New Cross, S.E.

TWO CASES OF PHTHISIS IN WHICH KOCH'S NEW TUBERCULIN WAS TRIED.

BY F. M. SANDWITH, M.D. DURH., M.R.C.P. LOND.,
PHYSICIAN TO KASR-EL-AINI HOSPITAL, CAIRO.

CASE 1.—The first patient was a German who for four years has had tubercle of both lungs. Koch's instructions were followed in all particulars, and the initial injection was $\frac{1}{10}$ milligramme, or two micro-milligrammes. The patient's temperature taken at 7 A.M. and 7 P.M. ranged before treatment from 97·8° to 99·4° F., but the injection was invariably followed by a reaction, sending the evening temperature up to 100·2° or 101°, and after three micro-milligrammes had been injected the evening thermometer showed 101·4° and 101·6. But the morning temperature never rose above 97·8°, showing that the reaction only lasted a few hours. The injections were all made at 10.30 A.M. For the first two days the expectoration notably diminished, but then increased, especially at night. After three weeks the injections had to be discontinued because of slight pleurisy and hæmoptysis. From the previous history of the patient I do not think that either of these complications were due to the tuberculin TR. The pulse and respiration rate hardly changed in spite of the temporary rise of temperature, being always 70 and 13 to 14 in the mornings and 97 and 20 to 22 in the evenings.

CASE 2.—The second patient was a Greek, also suffering from chronic tuberculous lung disease. In his case there was also a temporary rise of 1° F. after injections of two, and again later after injections of three, micro-milligrammes. In his case there was also some local reaction, as shown by the appearance of pain and some diminution of swelling in a tuberculous epididymis. His lung symptoms seemed to improve under treatment. It is of course quite likely that Koch himself would have thought these two cases unsuitable for his new discovery.

The tuberculin TR contains not the toxin but the components of the bacilli themselves, and will probably be found very useful for lupus without complications. If all lung cases react as easily as mine, the injections might be used as a method of diagnosis more delicate and less dangerous than the old tuberculin. At present one is a little shy of a remedy which is to be increased in dosage from $\frac{1}{10}$ milligramme to 20 milligrammes—i.e., the minimum dose is 10,000 times smaller than the maximum. To become popular the new remedy must be made easy to obtain, less costly, and must be diluted in a less cumbersome way, if "the dilution is always to be prepared at the time it be used." The tuberculin itself is painless, but the glycerine in the solution causes a little stinging.

Cairo.

A CASE OF CÆSAREAN SECTION FOR CYESIS COMPLICATED BY MALIGNANT DISEASE OF THE RECTUM.

BY ALBERT J. RIDDETT, M.R.C.S. ENG., L.R.C.P. LOND.,
LATE OBSTETRIC HOUSE PHYSICIAN, MIDDLESEX HOSPITAL.

ON Aug. 3rd, 1897, I was hastily summoned by a midwife to see a patient, aged thirty-seven years, who according to the account given me had been in labour twenty-four hours. I found the patient in a marked degree of prostration, the pulse 120 and occasionally intermittent; she had also vomited two or three times. On abdominal palpation I found the fœtus lying transversely with the cephalic extremity to the right side of the pelvis; per vaginam the posterior vaginal wall was found to be pushed forwards, and a hard irregular mass could easily be made out blocking up the pelvic outlet. The true conjugate diameter only measured two and a half inches. Per rectum about four and a half inches from the anus a hard nodular swelling was felt, which bled even on careful manipulation. Uterine contractions were frequent and strong, so I at once gave a quarter of a grain of morphia hypodermically; this was at 6 A.M. and effectually stopped the contractions. From the cachectic appearance of the patient, the evident wasting, a history of occasional diarrhœa, together with the presence of a tumour and the patient's age, I had no doubt that it was a case of malignant disease of the rectum, which had taken on a rapid growth during the later weeks of pregnancy. This was, I learnt, the sixth confinement, the five previous ones having been quite normal. I put it to the patient's friends that either craniotomy or Cæsarean section must be performed, strongly advocating the latter, inasmuch as I thought craniotomy would be dangerous, probably causing sloughing of some portion of the growth and consequently septic mischief. I saw the patient again at 9 A.M., when, as the uterine contractions were recommencing, I gave another injection of morphia (quarter of a grain), and had her prepared for operation, the patient and her friends having given me permission to perform Cæsarean section. Ether having been administered I opened the abdomen by the ordinary laparotomy incision; then my friend, Dr. Owen Williams, who kindly assisted me at the operation, firmly compressed both broad ligaments, thus effectually controlling the blood-supply to the uterus; the latter organ was quickly opened by a median longitudinal incision, sponges having been placed on either side to prevent escape of liquor amnii into the peritoneal cavity; the fœtus was extracted, and the placenta (which was on the posterior uterine wall) with the membranes expressed. There was but an insignificant quantity of blood lost. The uterus contracted well under the stimuli of pressure and hot sponges. The muscular wall of the uterus was closed by twelve deep silk sutures, which did not include the mucous membrane; superficial Lembert's sutures were next inserted, so that the peritoneal surfaces accurately approximated. The Fallopian tubes were next tied and divided. The uterus, which had been partly withdrawn from the abdominal cavity, was now replaced and the abdominal wall sutured in three layers—(*a*) the peritoneum with catgut, (*b*) the sheath of the rectus with silk, and (*c*) the skin and superficial tissue with silkworm gut.

I may say that the case resembles somewhat one Dr. Wm. Duncan had whilst I was his house physician at the Middlesex Hospital, and in the operation I have recorded I endeavoured to follow as closely as possible Dr. Duncan's methods. The patient is now practically convalescent and has had an uninterrupted recovery save slight vomiting which commenced about twelve hours after the operation; this was stopped by means of iced champagne. The child (a male) is alive and doing well.

Leicester.

UNIVERSITY OF DURHAM COLLEGE OF MEDICINE, Newcastle-on-Tyne.—The prizes and scholarships will be presented at the opening of the Winter session by the Right Honourable Lord Barnard.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

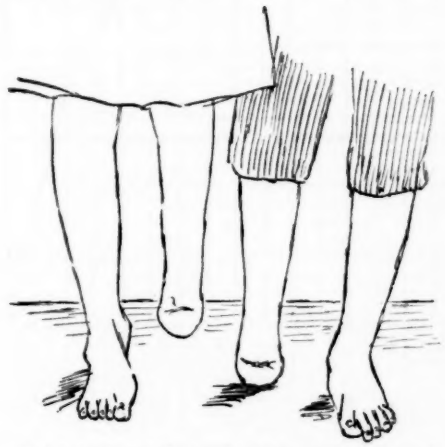
LONDON TEMPERANCE HOSPITAL.

A CASE OF PIROGOFF'S AMPUTATION.

(Under the care of Dr. W. J. COLLINS.)

WHEN amputation at the ankle is required for disease of the foot there is a general consensus of opinion that Syme's operation affords a better chance of the complete removal of the disease than Pirogoff's, in which a portion of the os calcis is retained. This is especially the case in tuberculosis of the tarsus, for it is rare to find such extensive disease of the tarsal bones as to require amputation without the calcaneum being affected. In the case of amputation for injury obviously this objection does not apply. Instrument makers assert that it is more difficult to adapt an artificial foot to a Pirogoff stump than to that resulting from a Syme's amputation, but this is really an imaginary difficulty. The greater suitability of the stump for walking is the chief reason for preferring the Pirogoff operation to the other; in the former it is practically the thick heel pad supported by a rounded bony surface which comes in contact with the ground, while in Syme's the freshly sawn surfaces of the tibia and fibula press against the skin flap.

A boy, aged thirteen years, whose family history was unimportant, was said to have injured his right foot when jumping some three weeks before his admission to the London Temperance Hospital on Nov. 3rd, 1896; an abscess formed and broke below the internal malleolus, leaving a



Sketch showing relative lengths of stumps after Syme's and Pirogoff's amputations.

sinus which was discharging. A probe indicated carious bone. The patient was in much pain and was subject to starting at night; the temperature in the evening ran up to about 101° F. A week later no improvement had resulted from rest; the boy looked worse, was losing weight, and was in much pain. On the 11th, under chloroform, Dr. Collins performed Pirogoff's amputation of the foot. The sawn surfaces of the tibia and os calcis appeared to be healthy to the naked eye, and were brought into accurate apposition by silk sutures passed through foramina bored with a brad-awl. The wound healed well, though the temperature ranged high for a week or two. On Jan. 2nd, 1897, he could walk without a boot and was gaining weight rapidly. When fitted with a dummy foot he walked without any lurch, and so well that some who saw him could not believe that the foot had been amputated.

Remarks by Dr. COLLINS.—The Moscow meeting will doubtless afford occasion for reviving the fame won by Nikolaus Pirogoff in many fields of human activity. As a profound anatomist, a military surgeon, a hospital organiser, and a university reformer he has impressed his rugged personality upon the history of his time. True, that to the ordinary English student his name is known almost exclusively by his osteoplastic modification of Syme's amputation, of which an account with a diagram is to be found in his "Klinische Chirurgie," published at Leipzig in 1854. But this improvement in amputation of the foot, as he practised it, as also as more recently modified by Lefort and Günther, was in itself a valuable reform. I recently happened to have in my wards two children of about the same age and height; in one case I performed Syme's amputation as the caries was too extensive to save any of the tarsus, and in the other case (the notes of which are given above) I performed Pirogoff's modified operation. It occurred to me to photograph the patients side by side. The accompanying illustration (which I have reproduced faithfully from the photograph) shows the advantage in length in the case of the boy as against the shortening in that of the girl, in which Syme's unmodified operation was done. The difference in the gait was not less noticeable even when the shortening in the latter case was corrected by a cork sole.

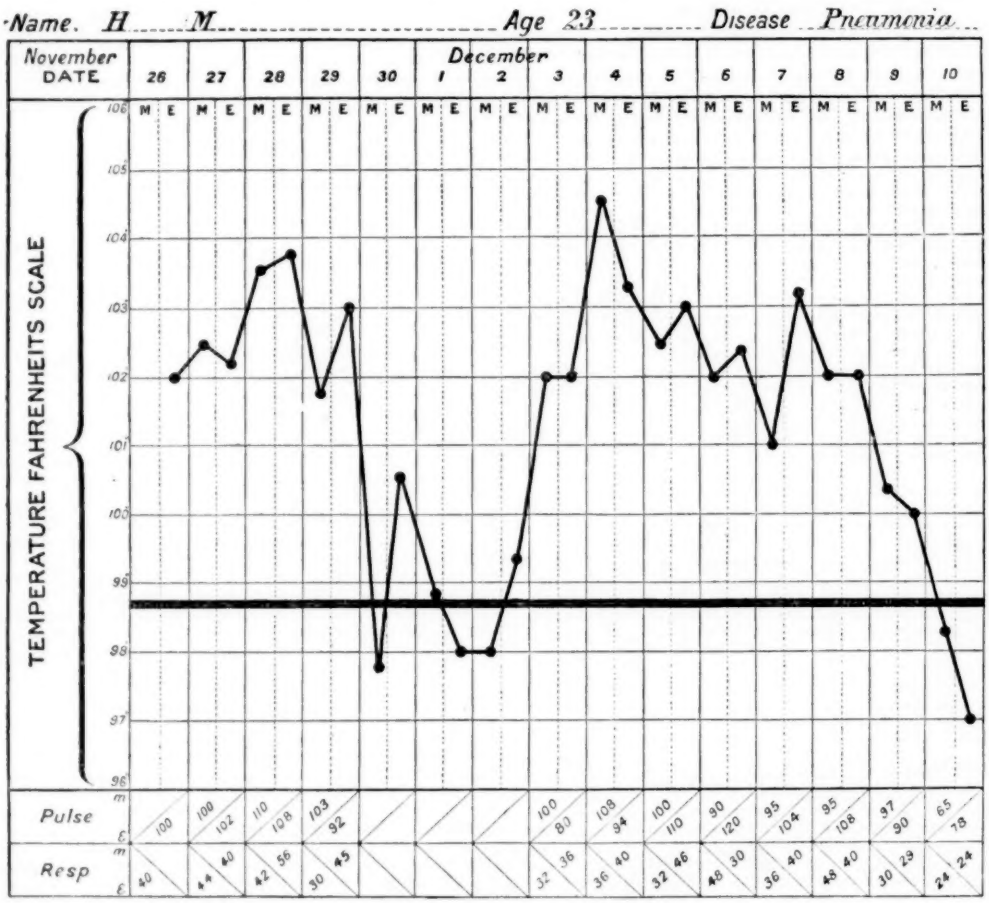
ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

A CASE OF RELAPSING PNEUMONIA.

(Under the care of Dr. THOMAS OLIVER.)

A MAN, aged twenty-three years, was, on Nov. 26th, 1896, admitted into the Newcastle Royal Infirmary under the care of Dr. Oliver. As the patient was delirious no history of the illness was at this stage obtainable, except from the remark volunteered by a friend that he had been in bed for five days. Subsequently when he recovered it was ascertained from him that while at work on the 21st he had been suddenly seized with a violent shivering at 11 A.M., that do what he might he could not get himself warm, and that in the afternoon he felt so unwell he was obliged to go to bed. On the morning after his admission into the infirmary he had a flushed face and rapid breathing, his mind was still wandering, and he was the subject of short cough and rusty expectoration. He was too ill for a careful examination to be made. All that could be done, therefore, was to make an examination of the front of the chest, by which was detected a limited area that was dull on percussion, commencing a few inches below the right clavicle, and over this area distinct tubular breathing could be heard. The left chest and heart were healthy. On the 28th, while there was evidence of the percussion note over the upper part of the right chest being less dull, there was detected a small area of dulness external to the right nipple and also that the base of the lung was dull. The area which gave this altered percussion note extended in an upward but slanting direction towards the axilla. On examining the chest posteriorly tubular breathing could be heard from the inferior angle of the right scapula downwards. Although the breathing was rapid (56 to the minute) there was no actual dyspnœa, the pulse was 110, and the temperature was 102° F., having fallen 2° since the previous night. Later in the course of the day there was a considerable degree of muscular twitching, but this disappeared on discontinuing the liquor strychninæ which for the past two days he had been taking. On the 30th he seemed to be rather better. His temperature on the previous afternoon was 105·2°, but by midnight it had fallen to 98·4°, and with the fall of his temperature the delirium disappeared. For brevity's sake, although the four hours' chart is quoted from, it is not reproduced. For the next two days the patient seemed on the whole to be fairly well; but although his temperature had fallen he never exhibited that look of well-being which is discernible in any one who, having passed successfully through a sharp illness like pneumonia, may be said to have "turned the corner." He was heavy and listless, so much so that when, after remaining thus for a few days, and the temperature again began to rise, and the dulness at the right

base had extended to the sixth rib, the possibility of a commencing empyema suggested itself. On Dec. 5th the patient was the subject of a short hacking cough. The respiration was 32 and the pulse was 100; the tongue was coated. There was slight diarrhœa, the stools being thin and watery, yellow, and of a disagreeable odour. Although his temperature on the previous night was 104·5° he was stronger than he was and abler to bear examination. The dulness previously detected at the level of the third right rib had entirely disappeared and the percussion note was now almost hyper-resonant. There was still dulness at the extreme base of the right lung. Over the upper part of the right lung the breath sounds were coarse and accompanied by muco-crepitant râles, while at the base a friction sound was heard and there was rather a deficiency of the respiratory murmur. Beyond a degree of coarseness and loudness of the breath sounds the left lung presented nothing abnormal. The heart was healthy and there was no splenic enlargement. On examining the chest posteriorly the dulness at the right base was most marked in the axillary line, and here the respiratory murmur was deficient. As the physical signs suggested pleural effusion a needle was inserted into the right chest, but only a few drops of dark venous blood were withdrawn. On the 8th there was very marked tubular breathing with increased vocal fremitus and vocal resonance over the extreme right apex, back and front, but especially posteriorly. On the 10th the patient was bathed in perspiration; his breathing was less rapid and his condition, generally speaking, was favourable. On the 11th he still perspired very freely. He had apparently passed through a second attack of pneumonia, in which the temperature began to fall on the sixth and seventh days. On the eighth it was subnormal (97·4°), the pulse was 65, and the respiration was 24. He looked pale and was prostrate. He had the look of a man who had passed through a severe illness, but with it all he had a clearer and brighter expression than he had ever had since his admission. On the occasion of his first crisis the observer was struck by the want of mental clearness, but in this there were a brightness and intelligence which were not present previously. There was still cough, and the sputa were now muco-purulent. It is interesting to note that in the second attack of pneumonia the sputa, which had lost their typical character, again became rusty on the second day of the illness and continued thus until the sixth. On examining the blood after the first crisis there was almost a complete absence of leucocytes, but in this, although a few more were observed, there was still a very noticeable deficiency. The patient's prostration was still too great to allow of any lengthened physical examination, but there could be detected dulness over the right apex, crepitation and bronchial râles, with tubular breathing. On the 14th, although looking pale, the patient was progressing satisfactorily. There was still profuse perspiration; the pulse was 60, and the respiration was 24; the temperature for the past four days had been sub-normal. The expectoration was becoming increasingly less purulent and more mucous, and was gradually diminishing in quantity. Over the right apex there were heard coarse bronchial breathing and large crepitant râles. The heart and the left lung were healthy. The urine throughout the illness had been free from albumin and sugar. On the 19th the patient looked and felt remarkably well; he had an excellent



appetite, and there was no cough or expectoration. The right chest was resonant from the clavicle to almost the base of the lung; the respiratory murmur was full and free, and there was no longer any râle heard in front except at the extreme base, where occasionally a friction sound could be detected during inspiration. In the axillary line there were diminishing dulness at the base, friction sound, and feeble respiratory murmur. These by degrees gradually disappeared, and the patient made an excellent recovery and has maintained (August, 1897) his health since.

Remarks by Dr. OLIVER.—Whatever view we hold as to the nature of a recurrence of acute pneumonia in a patient a few days after his apparent recovery, the fact is sufficiently uncommon to attract attention and to merit the few remarks I feel disposed to make upon it. Typical as pneumonia frequently is, it still exhibits many peculiarities, particularly as regards its duration and crisis. A relapse occurs occasionally and may even be repeated. Under most circumstances it is not always easy to distinguish a relapse from a pseudo-crisis, from pneumonia progrediens, or from a form spoken of as migratory and defined by Homburger as a pneumonia which in its course shows successive invasion of different parts of the lung, while the physical signs disappear from the parts first affected. To constitute a true relapse there must have been complete apyrexia and more or less advancing resolution. Osler alludes to pneumonias in which after the subsidence of fever any time between the ninth and eleventh days, and when the temperature has remained normal for a day or two, it again rises and persists for eight or ten days. The second attack is said to be mild, the duration of the pyrexia in the relapse being usually shorter than in the primary illness by several days. Since a true relapse is a rare occurrence we have some difficulty in really knowing what it means. Walshe, in dealing with the question of the frequency of relapse in pneumonia, states on the authority of Briquet that it occurs in one-fifth, and according to Grisolle in one twenty-eighth of the cases. Our experience certainly leads us to say that Briquet very much overstates the frequency, and, without expressing the ratio in numerical terms, we would simply state that a true relapse announced by a fresh rigor, rusty expectoration, crepitation, and a well-defined period of pyrexia is in this country a very much rarer circumstance than these French physicians would lead us to believe. The patient whose illness supplies the above facts was a young, strongly built, and apparently healthy man, but of such an age as to have sometimes raised in my mind during the course of his illness the question as to the possible existence of a deeper constitutional malady than pneumonia. It is noteworthy that the relapse was not ushered in by a rigor, but by a fairly rapid rise of temperature and an increased number of respirations; that the sputa became rusty on the second day; that the pyrexia lasted about seven days, terminating in a lysis accompanied by profuse perspiration; and that, just as in a primary attack of pneumonia, the physical signs in the chest lagged behind those indicating constitutional disturbance. Some time ago Dr. A. E. Wright,[1] in a paper on the Bacteriology and Pathological Chemistry of Pneumonia read before the Pathological Society of London, showed how, as the crisis in this illness was reached, there occurred the triple phenomenon of disappearance of leucocytes and bacteria from the blood, accompanied by tumefaction of the spleen. In my patient the disappearance of leucocytes from the blood after the pseudo-crisis was very noticeable, also after the relapse; but there never occurred any perceptible enlargement of the spleen.

[1] THE LANCET, Feb. 9th, 1895.

NORTH DEVON INFIRMARY, BARNSTAPLE.—The annual meeting of the North Devon Infirmary was held in the board-room on Aug. 24th, Lord Ebrington being in the chair. The report showed that on June 30th, 1896, there were 44 in-patients remaining under treatment; 691 were admitted during the twelve months, 23 died, and 657 were discharged, leaving 55 under treatment on June 30th, 1897. The out-patients were 2967 in number. The average daily number of in-patients was 51, the average period of residence being between 25 and 26 days. The total income was £3318, including £1211 balance at the banks last year; the expenditure, however, had materially exceeded the income, so that it was necessary to withdraw £500 from deposit.

Reviews and Notices of Books.

Allgemeine Dermatologie, oder Allgemeine Pathologie, Diagnose und Therapie der Hautkrankheiten. (General Dermatology, or General Pathology, Diagnosis, and Therapeutics of Diseases of the Skin.) Von Dr. ERNST KROMAYER. Berlin: Borntträger Brothers. 1896. Price 10 marks.

THIS book, published in the form of lectures, will afford to those acquainted with the German tongue a very useful introduction to diseases of the skin. As its name implies, it treats the subject from the general point of view only. Descriptions of special diseases form no part of its scheme, and diagnosis and therapeutics are dealt with from a broad and general standpoint also. The first part of the book treats of general pathology in its relation to the skin, and the writer justly points out that, owing to its superficial position and accessibility to observation, the skin offers a peculiarly favourable field for the study of pathological processes. The first two lectures are devoted to a detailed account of the structure of the skin and its appendages, illustrated by useful diagrams and micro-photographs. The author then passes on to the subjects of active and passive hyperæmia and anæmia of the skin; the account of atonic hyperæmia is a very excellent and lucid one. Subcutaneous and papillary œdema are next dealt with very thoroughly. Inflammation receives attention in three lectures, in which the subject is treated at considerable length and in a scientific spirit. In the next two lectures the author deals with the pathology of the chronic papular and tubercular eruptions, grouping them together on the ground of their common basis in tissue proliferation; the widely different nature of such diseases as tuberculosis, psoriasis, and ringworm leads us to doubt the expediency of such a classification, however excellent the description of the pathological processes in question may be. Hypertrophy, atrophy, pigmentation, new growths, and ulceration form the subjects of the remaining lectures of this the largest section of the book. The section on general diagnosis comprises two lectures only, in which the writer discusses the principles upon which the genus, rather than the species, of the disease is to be determined. The third section consists of three lectures, in which are set forth the principles of dermatological therapeutics and the mode of action of the different groups of remedies. Both these sections are well worthy of attentive study.

We know of no book in the English language, and, indeed, no book of such moderate size in any language, which has precisely the scope and aim of the one before us. We are, indeed, sadly lacking in short but thorough introductory treatises of the kind. No one after reading Dr. Kromayer's lectures can fail to bring to the diagnosis and treatment of skin diseases a clearer mind and a more rational and scientific spirit. We can recommend it heartily to all who can read it in the original, and we trust that it may be worth someone's while to translate it for the benefit of those who are unfamiliar with German.

Manual of Static Electricity in x Ray and Therapeutic Uses. By S. H. MONELL, M.D. New York: W. E. Harison. 1897. Royal 8vo. Pp 614.

THIS book has a threefold interest, first, because it is the most important book in the English language on Modern Applications of "Statical" Electricity to Therapeutics; secondly, because it supplies reprints, most useful for purposes of reference, of the reports of Addison, Golding-Bird, and Sir William Gull on the subject of statical treatment in the earlier part of this century; and, thirdly,

because it draws attention to the advantages of the electrostatic machine for x ray work.

In England the excitation of x ray tubes by electrical machines seems to have been tried and abandoned, the probable reason being that good machines are extremely uncommon in this country. Theoretically, an apparatus capable of supplying a steady electro-motive force high enough to excite the tubes should present advantages over the intermittent current of the induction coil, and practically it is so. With a good Wimshurst machine there is a brilliant illumination of the phosphorescent screen far superior to the flickering light given by a coil, and time is saved in exposures of photographic plates. Dr. Monell claims to have procured with five minutes' exposure results as good as could have been obtained in half an hour with coils. He writes with confidence and is evidently an experienced worker with the x rays. A machine with twelve 36 in. plates is the size which he finds best, and though his work was done with a Holtz machine (the type most used in the States), the Wimshurst machine is certainly as good and probably is better for the purpose.

Turning now to his account of the therapeutic uses of electrostatic treatment, we find much which is calculated to afford food for thought. In England the statical machine has not yet been seriously taken up, but it is evident that Dr. Monell finds in statical treatment a most valuable agent for the relief of rheumatic and other painful states, such as neuralgia and sciatica; also in neurasthenia and in melancholia and other morbid mental conditions, where he finds it to have a general tonic effect which is productive of good.

The style of the book is spirited and practical; it supplies a want, and should lead to a further study of electrostatic methods in this country.

LIBRARY TABLE.

Tuberculosis, or Flesh-eating a Cause of Consumption. By JOSIAH OLDFIELD, M.A., B.C.L. The London Vegetarian Society, Memorial Hall, Farringdon-street, E.C. 1897. Pp. 62. Price 6*d*.—The principal question discussed in this little book relates to the trustworthiness of official inspection as a means of recognising tuberculous meat. The author concludes that a large proportion of the carcasses which are passed by the inspectors are nevertheless sufficiently infected with tubercle to be dangerous to the consumer, and that the system is almost worse than useless, for it deludes the public into relying on a security which is non-existent. He points out that the ordinary cooking of meat does not necessarily destroy the tubercle bacillus and its spores, and he advocates vegetarianism as a complete solution of the difficulty. At the same time he recommends a much more careful and thorough examination of meat than is at present enforced, together with compensation to butchers who find that the animals which they have bought are diseased.

Mrs. Keith's Crime. By Mrs. W. K. CLIFFORD. London: T. Fisher Unwin. 1897. Price 6*s*.—This is a new edition of a powerful if sombre work which appeared first in 1885. On its first appearance some interest was aroused among medical men as to the exact nature of the complaint from which the heroine suffered, opinions being pretty equally divided between a mediastinal tumour and some form of morbus cordis. In any case, it is a rare occurrence to find medical matters treated in lay writings as correctly as they are in this book.

In the *Phonographic Record* for August Dr. Colman tells how a case of intense pain in the hand and arm after lasting for five months was cured by rest and continuous irrigation for ten days with weak spirit and water. Sir W. R. Gowers asks for information as to the duration of the blue line in lead poisoning, and Mr. Peyton Beale emphasises the importance of purification of the skin of the patient and the hands of the surgeon before an operation. When wounds become inoculated with micro-organisms at the time of an operation, in nearly every case the micro-organisms come from the hands of the surgeon; and Mr. Beale thinks that in nine-tenths of the operation wounds which go wrong the inoculation with septic organisms takes place at the time of the operation. Short notes and a reference to medical phonography in Australia, where Dr. Grant, who has used shorthand for a quarter of a century, testifies to its advantages, complete the number.

JOURNALS AND REVIEWS.

Brain: A Journal of Neurology. Parts 77 and 78. Spring and Summer, 1897. London: Macmillan and Co., Ltd.—It seems to us a pity that the abundant material apparently at the disposal of the Neurological Society should be as it were saved up until there is sufficient to make a double number of *Brain*. The amount of reading in over 250 pages of neurological material is considerable, and we venture to think that the society would consult the convenience of all readers of *Brain* if it reverted to the excellent custom of issuing more or less regularly its single quarterly numbers The double number before us is one of much interest. Dr. Savage's presidential address on Heredity and Neurosis occupies the first place. Dr. Michell Clarke next has an article on the curious disease known as Huntington's Chorea, and there are numerous other clinical and experimental records by Dr. Risien Russell, Dr. Wiglesworth, Professor Hill, and others. One of the most important papers is probably that of Dr. F. E. Batten dealing with the muscle spindle under pathological conditions. There are several reviews of neurological and psychological works, and a comparatively novel feature is a short abstract of the proceedings of the Neurological Society.

SOCIETY FOR THE SUPPRESSION OF THE OPIUM TRADE.—We have received the report of the annual meeting of the Society for the Suppression of the Opium Trade, which was held at the Memorial Hall, Farringdon-street, E.C., Sir Joseph W. Pease, Bart., M.P., presiding. It mentions that the majority report of the Royal Commission on Opium recommended that the Indian Government should abandon in all provinces the licensing of shops for the manufacture and sale of opium-smoking preparations, and this reform has now been carried into effect. The Indian Government has also undertaken to ascertain the opinions of local governments on the question of legislation against the use of rooms as smoking saloons, but the replies received from the various local governments have not yet been presented to Parliament. Information, however, has reached the Society from reliable sources to the effect that the opium-smoking establishments have in fact been closed almost all over India, apparently without any fresh legislation. To the great mass of the Indian population the closing of these places means the suppression of opium-smoking, as in India very few have the skill or the facilities for preparing opium for their own smoking. Another measure, enacted at the close of 1896, is that by which in the Straits Settlements the Malay population has been excluded from such places, and thus practically protected from the opium vice altogether, as opium is not usually consumed there in any other way. Another race among whom the use of opium has recently been prohibited are the Chins of Upper Burmah, imprisonment or fine, or both, being the punishment for cultivating or dealing in opium, ganja, or bhang in the Chin Hills. The report goes on to state that the Indian Government, although it is endeavouring to check opium smoking in India, nevertheless prepares in its own factories, and sells for export every year, mainly to China, 36,000 chests, containing 5,040,000 lb. of opium specially prepared to suit the taste of Chinese smokers.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 4, 1897.

THE first meeting of the British Medical Association beyond the limits of the four seas is naturally an event of special mark, and it is fitting that in this year of Empire the meeting place chosen should have been the greatest of our self-governing colonies. The note of unity was prominent in the addresses of Dr. RODDICK and Dr. OSLER, reports of which will be found in another column. The President took for the main subject of his address the Medical Aspects of Canada—a wise selection, for we fear that to most of the British delegates that great country is almost an unknown land. Some few books have been published on this side dealing with it, notably the delightful work of EARL MILTON and Dr. CHEADLE, and the "Great Lone Land" of BUTLER; but even these are not well known, and both, if we remember rightly, appeared some thirty years ago. The natural resources of Canada are very remarkable, and her special feature—namely, the enormous area of water-way—is to be matched in no other land, save possibly Finland. British practitioners will owe Dr. RODDICK a debt of gratitude for the clear and concise way in which he has summarised the advantages of his country.

The subject of Professor OSLER'S address in Medicine was a very fitting theme for a meeting held in a great British colony. He dealt with the growth of medical knowledge in the English-speaking countries beyond the seas. The nearest parallel to the Greater Britain which has grown up within the last three hundred years is to be found in Magna Græcia, and as the Grecian cities scattered about the shores of the Mediterranean looked for help and support from the Greece they had left, so the early British colonies received their knowledge and their learning from the land whence they themselves had come. Hardly three centuries have elapsed since the revival of medicine in England, and three names naturally suggest themselves as representative of the progress which has come from that revival. LINACRE, HARVEY, and SYDENHAM are typical of the literary, the scientific, and the practical aspects of modern medicine. LINACRE comes first in point of time; not only was he in a large measure responsible for the revival of Greek thought in England, but he was also directly the cause of the more careful study of HIPPOCRATES and GALEN in the original. The truly scientific character of so much of GALEN'S work formed a most striking contrast to the crude empiricism which was current in LINACRE'S day, and in rendering available once more this ancient knowledge LINACRE prepared the way for his successor HARVEY. The revival of the study of the Greek Medical Classics could not but benefit and assist the careful scientific study of medicine. HARVEY'S great discovery of the circulation of the blood was in a way an outcome of the further consideration of the methods of the "father of medicine," and this discovery was itself the true foundation of modern experimental physiology.

If there is any special quality which may be said to be characteristic of the British it is certainly the practical nature of all their work, and so HARVEY did not content himself with remaining a theoretical physiologist—he was also a practising physician; and though the public of that day is said not to have appreciated as it should this union of the science with the art of physic, yet the union cannot but have been beneficial to medicine itself. The same tendency has been seen even up to the present day; those who have done most for physiology and the allied sciences have been for the most part engaged in the practice of medicine or surgery. We turn to the third member of the triad. If we may look upon HARVEY as typical of the science of medicine we may regard SYDENHAM as a good representative of the practical physician of to-day. At the start he was weighed down by the accumulations of many centuries of false facts and baseless theories; these he resolutely put aside, and in the very spirit of HIPPOCRATES he applied himself to the exact and careful study of the phenomena of disease; the practical nature of SYDENHAM is seen in all his work, and though we may not claim for Britain the distinction of advances in the scientific aspects of medicine, such as can be claimed by the countries of LAENNEC, PASTEUR, VIRCHOW, and KOCH, yet all the most important practical advances, as vaccination, anæsthesia, and antiseptic surgery, are the products of the English-speaking countries.

Professor OSLER divides the development of medicine in North America into three periods. In the first period, which may be considered to extend from the foundation of those colonies to the year 1820, all the medical knowledge was derived from the mother country, and until the formation of medical schools in America, commencing soon after the middle of the eighteenth century, the supply of medical men was derived almost entirely from Great Britain, and many colonists came to London and Edinburgh to study medicine. In this way the teaching of HUNTER had a very far-reaching effect; his former pupils included many of the foremost physicians of America, and reprints of his works were circulated widely. The second period may be considered to extend from 1820 to 1860. The important advances in clinical medicine due to the researches of BICHAT, BROUSSAIS, and LAENNEC naturally attracted many American students to Paris, and the influence of the French school could not fail to be deep and wide; in this way Great Britain lost much of the influence she had formerly possessed, but even during this period medical literature in America consisted almost entirely of reprints of English works. The third period Professor OSLER considers to extend from 1860 to the present time, and it is characterised by the growth of appreciation of the German school. In 1860 appeared in America the first translation of VIRCHOW'S "Cellular Pathology," and the stream of American students turned in the direction of Berlin and of Vienna.

In Australia the majority of those practising medicine have received their professional education in Great Britain, but medical schools have now for a long time been established and the number of native-trained men is yearly

increasing. India is a vast field for medical research, and Professor OSLER expressed his great regret that the British Government had not done much more than it has to aid the scientific investigation of disease in that country. What the future may bring forth, who can say? No one in 1797 would have ventured to predict that the present year would see such gatherings as have just been held at Montreal and at Moscow, and to science is due the honour of first having united for one common cause men of different race, speech, and creed. Professor OSLER regretted that the literary aspects of medicine had not received of late years the attention in Great Britain which they deserved, but when we have the privilege of reading such an eloquent, learned, and scholarly address as that which he delivered at the Montreal meeting we cannot but think that there are worthy successors of LINACRE at the present day.

Mr. MITCHELL BANKS, who delivered the address in Surgery, took for his subject the military surgeon. At the present time, when the British Government finds it impossible to obtain a sufficient number of surgeons for the army, it is very useful to consider what has been the position of the army surgeon in past times. Some very interesting particulars were given of our scanty knowledge of the surgeons attached to the cohorts and legions of the Roman army; all our information is derived from a few votive and mortuary tablets. Mr. MITCHELL BANKS gave AMBROSE PARÉ his due share of credit for the reforms he effected in the treatment of wounds, and then he went on to speak of PETER LOWE, who, after having seen a great deal of practice in military surgery in France, returned to Glasgow, where he founded the Faculty of Physicians and Surgeons. At the end of the sixteenth century he published a "Treatise on Surgery," in which he expressed very sensible views as to the treatment of gunshot wounds; his methods of arrest of hæmorrhage were good, for he advised the actual cautery if the wound was foul, but a ligature if the wound was sweet. Thirty years later WOODALL'S "Viaticum" appeared, which is of interest as the first English work specially devoted to military surgery. A name which is even better known is that of RICHARD WISEMAN, who served as surgeon in the armies of CHARLES I., and published in 1672 a "Treatise on Wounds." A very interesting account was given of Baron LARREY, NAPOLEON'S great surgeon, who served with much distinction in the Russian and Waterloo campaigns. The danger of death in a naval or military expedition was formerly much greater from disease than from wounds, and several instances illustrating this fact were quoted. On the field of battle military surgeons run at least as much risk as the members of those branches of the army which are specially called "combatant," and members of the medical staff have received a larger proportion of Victoria Crosses than the other branches of the service. Many instances of the great courage displayed by army surgeons were mentioned, and similar gallant deeds to those related will without doubt be performed whenever the occasion shall arise.

INTRA-TRACHEAL medication has been extensively tried by numerous observers. Some physicians have been fully satisfied with the results; others, however, have found that not only does this method of applying drugs to the respiratory apparatus cause considerable discomfort to the patient, but no better results are obtained than when the drugs are given in the usual way by the mouth. These remarks, of course, do not apply to laryngeal medication. In the *Journal of the American Medical Association* of June 26th a paper appears by Dr. J. A. THOMPSON, of Cincinnati, detailing the results of his experience of tracheal injections, which has been very large, and his conclusions are decidedly favourable to that mode of treatment. He considers that there are several reasons for the slow growth of this manner of treatment in professional favour, the principal one being that few physicians are sufficiently expert in the examination and treatment of the upper air passages to employ it. Possibly there is some truth in this statement, and it may account in some measure for the discomfort experienced by the patients after an injection has been administered; if properly given very little, if any, inconvenience is experienced. Dr. THOMPSON claims for this method of treatment several advantages. In the first place, he says, we get the direct local action of the medicines on the diseased areas, and he instances bronchiectasis as being particularly suitable for tracheal injections. He is of opinion that "no medicine given by the mouth will prevent the decomposition of the secretions in the dilated bronchi; the odour and the absorption of septic material from them cannot be controlled. A few tracheal injections will usually disinfect the cavities so that the odour disappears." With these remarks we agree; but whether this principle of local action can be extended beyond dilated bronchi is doubtful. If a large tuberculous cavity communicates with a bronchus it is possible that a tracheal injection of guaiacol might prove beneficial; but that the drug acts locally on the lung tissue itself, especially at the apices, has by no means been proved.

Another point brought forward by Dr. THOMPSON is well worthy of consideration. Medicines used by tracheal injections are not changed by passing through the digestive organs into unknown compounds, and for this reason we can be more certain of their action. "No one would think of treating a tuberculous laryngitis by internal medication alone. There is just as much reason for applying medicines of known beneficial local action directly to the lungs as there is for using them in the larynx." The weak point in this suggestion is that we cannot get at the diseased portions of the lungs as we can at the larynx, but at the same time if guaiacol has a local action on tuberculous deposits, if the injection is well tolerated, inspiratory efforts may carry the drug some little distance into the lung, and some of it may be absorbed by the parenchyma of the lung, and so the desired effect be produced. Dr. THOMPSON also points out that when medicines are injected directly into the trachea they have no deleterious effect on the organs of digestion. Guaiacol and similar preparations frequently produce ill effects when taken by the mouth, and have to be discontinued; so also various expectorants, such as are used in acute and sub-acute catarrhal diseases, act injuriously on the stomach and intestine. The name of one class, nauseating expectorants, testifies to the universal recognition of this fact.

The diseases most suitable for this form of treatment,

according to this writer, are pulmonary tuberculosis, pulmonary syphilis, chronic bronchitis, inflammation of the trachea, asthma, and bronchiectasis. Tracheal injections have been most extensively tried in pulmonary tuberculosis and with varying success by different observers. Dr. THOMPSON speaks very highly of this method in chronic bronchitis. He believes "there is no comparison between the two methods of treatment. The results are so much more rapid and satisfactory by intra-tracheal medication that no patient who has once been given this treatment is ever willing to continue internal medication." The most serviceable solutions are menthol (2 per cent.), guaiacol (1 per cent.), creosote (1 per cent.), and camphor (from 2 to 3 per cent.). The vehicle used should be one of the light petroleum oils or olive oil. The method will doubtless be given an extended trial, and the experiences of other physicians will be awaited with interest.

WE have so often found fault with the loose manner in which medical education and medical practice have been conducted in the United States of America, that it is only fair to be ready to recognise a healthier and more creditable state of things in that country when such an occasion arises. We find such an instance reported by, and commented on in, our contemporary the *New York Medical Record* of Aug. 21st. The case in point occurred in Louisville, Kentucky—a state creditably known in respect of its medical legislation and, what is more, of the application of such legislation. For more than twenty years—namely, since 1874, Kentucky has had a law regulating the practice of medicine in the State, one or two clauses of which we may insert as a guide to those who are impressed with the inadequacy of our own Act.

Clause 2 of the Act of 1874 and amended in 1888 is as follows:—

"That on and after the first day of April, 1889, it shall be unlawful for any person to practise medicine in any of its branches within the limits of this State who has not exhibited and registered in the county clerk's office where he is practising or intends to commence the practice of medicine his authority for so practising medicine as prescribed in this Act."

Clause 3 prescribes the authority to practise under the Act, viz.: (*a*) a reputable diploma from some legally chartered school of the State or from a foreign country; and (*b*) an affidavit claiming exemption on the ground of having been in practice before 1864.

Clause 8 is as follows:—

"Any person living in this State, or any person coming into this State, who shall practise medicine or attempt to practise medicine in any of its departments, or who shall perform or attempt to perform any surgical operation for or upon any person within the limits of this State *for reward or compensation* [the italics are ours] in violation of the provisions of this Act shall, upon conviction thereof, be fined fifty dollars, and upon each and every subsequent conviction shall be fined one hundred dollars and be imprisoned thirty days, or either, or both, in the discretion of the jury; and in no case where the provisions of this Act have been violated shall the person so violating be entitled to receive compensation for services rendered."

A valuable clause in the same sense was "approved" on May 24th, 1890, which ran as follows:—

"Nothing in this Act or the Acts to which this is an amendment shall be so construed as to authorise any travelling empiric to register or practise medicine in any county in this State: to open office for such purpose, or to announce to the public in any other way his readiness to practise medicine in any of its branches in any county, shall be to engage in the practice of medicine within the meaning of the law."

Such is the law in Kentucky; and so long ago as 1890 Dr. J. N. MCCORMACK, Secretary of the Kentucky State Board of Health, testified that it was working well with the approval alike of the profession and the public, and that four or five hundred men had been forced to retire from practice or leave the State. Writing in reference to the case alluded to below, he gives a report significantly different from the dispiriting reports of all those who try to use our lame legislation for the repression of quackery and the vindication of regular practice, though our system of medical education and registration is, of course, very much more exacting than that of Kentucky. He says: "Our law has now been in operation nearly four years. It has been tested upon every point, and, so far, we have not failed to secure a conviction in each case tried. We convicted the Copeland people, the K. and K.'s, and all other concerns of that kind doing business here, and are able to report that there is not now an itinerant or advertising doctor within the limits of this State." When shall we be able to say the same of the United Kingdom? It only remains for us to state the particulars of the case which has called forth this striking testimony to the efficiency of the law of Kentucky. First let us say that it was brought into court by the Kentucky State Board of Health. It was that of a member of the bone-setting fraternity who styled himself "a Professor of Osteopathy" and who was charged with practising medicine within the meaning of the Act of the State. He sought to meet the charge by saying that he was "not practising medicine," but "simply manipulating the muscles with the hands." Good, simple man. Unfortunately for him, Judge THOMPSON was not so simple, but considered "that in his ignorance of the fundamental principles of the profession he subjected the child, who was suffering from tuberculous disease of the hip, to cruel and unnecessary torture, affecting his health and necessitating the employment of a physician to treat him for fever resulting from his ineptitude." The court ruled—and the ruling is expected to be a precedent in future cases—that "any person who *for compensation* professes to apply any science which relates to the prevention, cure, or alleviation of the diseases of the human body is practising medicine within the meaning of the statute." No wonder that good law, construed with so much force and common sense and so protective of suffering humanity, is popular with the public as well as with the profession.

Annotations.

"Ne quid nimis."

INSUFFICIENCY OF THE 40TH CLAUSE OF THE MEDICAL ACT.

A CASE is reported, in the *Accrington Gazette*, showing the hopelessness of prosecutions under the 40th Section of the Medical Act. The defendant was John Haworth, of 366, Blackburn-road, Accrington, charged with falsely

implying that he was recognised by law under the Medical Act, 1858, Section 40. Mr. Haworth was not unknown to the Bench or to Accrington, for in 1896 he was fined 40*s.* and costs for a similar offence. The facts were very simple. The defendant had on the fanlight over the front door the words, "Dr. Haworth, Homœopathic Physician," in gilt letters; and on the brass plate on the front door of the house the words, "Dr. Haworth, Homœopathic Physician and Massage Institute." On the outer gate of the house was a brass plate with the words, "Dr. Haworth, M.D. Canada"; the word "Canada" was under the words "Dr. Haworth, M.D.," and in very small letters, not to be made out by persons standing any distance from the plate. The chief defence was that the word "Canada" made all the difference and enabled persons to see that the defendant made no pretence to be recognised by English law as a medical man. Another point in the defence was curious and not very complimentary to homœopathic practitioners. Mr. Sutcliffe, representing the defendant, said there was not a fully-qualified medical man or registered practitioner in Accrington, or even in Lancashire, who used the words "homœopathic physician." He really made a point of this as showing that "Dr. Haworth" made it clear that he was not a qualified medical man within the meaning of the Act. On such weak grounds Mr. Sutcliffe defended his client, who called himself "a physician" and M.D. in two instances without even the qualification of the word Canada, which in this bare form means absolutely nothing. The diploma was said to have been procured after examination from a university in Canada. But it was not produced, and the magistrate's clerk advised the Bench to take no notice of it. We should have thought the offence very obvious. But the Bench was hopelessly, because equally, divided. What will Mr. Muir Mackenzie say to this fresh illustration of the insufficiency of the 40th clause, and to which moiety of the Bench of Accrington will he award praise? Meantime the British public are effectually deceived, and the vagueness of Acts of Parliament is painfully demonstrated.

CHLOROFORM IN DENTAL PRACTICE.

A DEATH under chloroform occurred at Rhyl on Aug. 13th under circumstances which confirm our often expressed opinion that chloroform is not a desirable or safe anæsthetic for dental practice. The patient in this case was a woman, aged twenty-nine years, in good health, and described as being strong and free from fear of the anæsthetic. She had very bad teeth, and a local dentist advised the extraction of twenty-seven of them. A medical man was called upon to give an anæsthetic, and he advised the use of chloroform. In his evidence[1] he said that he had examined the patient and judged she was in a fit state to take the anæsthetic. He considered nitrous oxide gas would be insufficient for so extensive a clearance, and added: "It was quite a usual thing to administer chloroform in cases of dental surgery which occupied some time, *and chloroform was as safe as any other anæsthetic.*" It is to be presumed that this statement, besides its general application, was meant in particular to apply to dental surgery, and it is in this connexion that we cannot but feel so sweeping a pronouncement is hardly in consonance with either the facts of this particular case or with the experience of the last fifty years. To refer for one moment in detail to the case. The patient was placed in a chair, and after the chloroform had been given from a mask for fifteen minutes the medical man signed to the dentist to commence the extractions. This was done, and after three teeth were removed the operator was requested to stop, as the patient had become "blue in the face" and "the breathing had stopped." It is further stated that just before the operation the patient struggled slightly, "as was usual in cases of the sort." They lifted the patient out of the chair, "but she was dead three or four minutes after she was placed on the floor." It would seem, therefore, that when the patient struggled she was not fully under chloroform, and this was after about thirteen or fourteen minutes of inhalation, then she at once became fully under the influence of the anæsthetic and the operation was proceeded with. Probably during that struggle the overdose was inhaled, and the interval before the chloroform actually stopped respiration by its action upon the medullary centres was taken by the dentist in drawing three teeth. It is obvious that the actual manipulation of the tooth extraction interferes both with respiration and the proper watching of the chest movements. Many medical men on such occasions assist their dental colleagues by holding the patient's head, and so have their attention withdrawn from the function of respiration and the condition of the patient. These are manifest objections to using chloroform, and a still further one is that it has been shown that the sitting position is one which increases the patient's risk under that anæsthetic. But the most cogent adverse reason to the use of chloroform in such cases is the extremely high mortality which reference to the report of THE LANCET Commission appointed to Investigate the Subject of the Administration of Chloroform and other Anæsthetics from a Clinical Standpoint, in 1893, shows only too plainly. We cannot agree with any statement that chloroform in dental operations is as safe as ether or the A.C.E. mixture. It is a very great question whether it is wise to attempt to remove twenty-seven teeth at one sitting; but if cases do arise in which such an heroic proceeding is considered justifiable, then certainly ether or a mixture should be used rather than chloroform. The only way in which the last-named anæsthetic can be at all safely employed in dental surgery is where the patient is placed under the same conditions as if he or she were about to undergo a major surgical operation. This cannot be done in the ordinary routine work of the dental surgery. The patient must be prepared by abstention from heavy food, must have all clothing absolutely removed and replaced by a dressing-gown, and must be placed in the recumbent position. We cannot but feel that for so comparatively trifling a matter as having teeth out no one's life should be jeopardised by the use of chloroform unless the fullest precautions are taken and the risk looked clearly in the face. Many country dentists may point to a large experience of chloroform without mishaps, but their fortunate cases cannot counterbalance or lessen the horror of a fatality such as that at Rhyl. We cannot speak too emphatically. This case is almost identical with one which happened only recently and which was recorded in our columns.

[1] Liverpool Mercury, Aug. 16th, 1897.

THE DUKE OF DEVONSHIRE ON HOSPITALS AND NURSES.

THE Duke of Devonshire may always be trusted to seize the prominent points of a question and treat them in the most practical fashion. He gives indication, too—if not always expression—of a sense of humour beneath the more obvious meaning of his words. His primary duty at Bradford on Monday was to lay the corner stone of the new nurses' home at Bradford in connexion with the infirmary there. This, of course, involved a few words on the subject of nurses and nursing. Not every old woman or even every enthusiastic young girl was fit for the work. It required training, intelligence, and assiduity. Indeed, the work was only second to that of the medical profession itself. Some critical prompter seems to have suggested to him that

nurses were apt to fancy that patients existed for the display of the importance of their art instead of regarding them as needing their consideration. And he gave this hint, which the best nurses will take in good part, with all his unfailing grace and good taste. The share of the medical profession in the work of hospitals was, of course, amply acknowledged by so careful an observer. The "patience, perseverance, and assiduity of the members of the noble profession had awakened the public conscience to the duty of seconding the efforts so nobly made by the profession." The Duke of Devonshire enlarged on the marvel of our voluntary hospital system, and maintained that, though involving great care and responsibility on the part of hospital authorities, and heavy indebtedness, it did not suffer in efficiency. He showed the indirect advantages which the public reaped from hospitals as places where professional education and skill were promoted. If there was any defect in his Grace's handling of this great subject it was in the absence of a word as to the abuse of hospitals, which discourages charity and promotes pauperism.

DEATH BY LIGHTNING.

THE effects of lightning as it passes to earth through the body of a man vary within an astonishingly wide range. It sometimes happens that a person is killed outright without any symptoms or sign of injury. It may be that death is preceded by collapse, paralysis, or convulsion, usually there are marks where the current has entered or left the body, or clothes may have been scorched, or hæmorrhages may have occurred, and more than one case has been recorded where boots have been torn off the feet and nails driven out of the soles of the boots. Seldom does it happen that lightning leaves such appalling evidence of its transit as that disclosed at an inquest held at Hulford House, near Guildford, on Saturday last. The evidence showed that on the previous Wednesday there had been a single flash of lightning and a clap of thunder, and about half an hour afterwards Major Jameson was found lying on his face in a field quite dead. Around him, in a radius of several yards, were his clothes and boots, which had been torn and scattered about in an extraordinary manner. The lightning appears to have struck him on the right side of the head, tearing his cap to pieces and burning his hair off. It then passed inside his collar down the front of his body and both legs into his boots, which were torn to pieces, and then passed into the ground, making a hole about eighteen inches in circumference and three inches deep. His collar was torn to pieces, the front of his shirt was rent into ribbons, the jacket and under-vest were literally torn to shreds, and the knickerbockers he was wearing were stripped from him and scattered on the ground. His stockings and gaiters were similarly torn in pieces, and on the boots the lightning had a remarkable effect. They were burst open, some of the brass eyelet-holes were torn out, nails were forced out, and the soles torn off. The skin had been torn off the chest, and the right leg was torn and blackened; blood was issuing from the mouth and right ear. In connexion with this fatality two circumstances of a more or less unusual kind may be noticed. There is, first, the single lightning flash, neither preceded nor followed by others in the neighbourhood; and secondly, the fact that the person who was struck was "in the open." The latter comparatively seldom happens, perhaps because shelter is instinctively and perhaps unwisely sought. Here there was no warning and no time for this, and so, without any neighbouring object at hand to subdivide and share the discharge, the latter had only one route to earth—viz., the body of its victim. The wet or dry condition of the clothes is an important point in such cases. It often happens that in persons exposed to a thunderstorm the clothes are wet, and therefore afford a comparatively easy passage to any electric current. In the case above detailed the clothes were presumably dry, and therefore bad electrical conductors, and the destructive effect of the lightning would be in proportion to the resistance encountered in transit.

"VESTRIES AND QUACK ADVERTISEMENTS."

IN THE LANCET of May 29th, 1897, we referred to this matter and quoted a letter from a correspondent on the subject. Our correspondent now writes: "In consequence of my further remonstrances with individual members of the vestry, together with your paragraph, the vestry gave fresh consideration to the matter, and a sub-committee was appointed to inquire into it. The sub-committee reported that the advertisement in question was an improper one for the vestry to exhibit, and in accordance therewith the vestry resolved that it should be removed. I am glad to say that this has been done, and the clock with the objectionable advertisement has disappeared." We are pleased to find that the action of our correspondent and our own protest have had the desired effect. The abuse of advertisements is becoming a serious matter. There is a place for everything, but public buildings in towns and fields bordering our railroads are emphatically not the places for the display of commercial enterprise.

DIET DURING COURSES OF MINERAL WATERS.

DR. F. PARKES WEBER, writing in a recent number of *Treatment* on the dietary suitable for patients at mineral water resorts, says that C. von Noorden, Karl Grube, and many others have pointed out that the true rules of diet to be observed whilst undergoing a course of mineral water are the rules suitable to the individual constitution of the patient and the complaint from which he is suffering. Amongst articles of diet which were supposed to be specially unsuitable at Carlsbad butter and fats were the most noteworthy because they are such extremely important foods. The mineral water was supposed to prevent their proper digestion and assimilation. Not only was fat prohibited with sulphated alkaline waters, such as that of Carlsbad, but with muriated waters, such as those of Kissingen and Homburg. Recently, however, F. Kraus has shown experimentally that a course of sulphated alkaline waters does not prevent the proper absorption and assimilation of the fat taken with other food; and C. Dapper had already proved the same to be the case in regard to courses of muriated waters, such as those of Kissingen and Homburg. Kraus gave considerable amounts of fatty food to patients suffering from complaints likely to be met with at Carlsbad, treating them at the same time with fair daily doses of Carlsbad (Mühlbrunnen) water, and he found that the percentage of the ingested fat which could be recovered again in the fæces of these patients was not unduly increased by the use of the mineral water. Dr. Parkes Weber hereupon remarks that a fatty diet gives rise to trouble in certain cases independently of spa treatment, and in such cases the diet whilst the patient is at the spa will have to be regulated. For instance, patients who suffer from obesity or from gastric dilatation due to fermentation of the contents of the stomach must have their diet regulated with respect to fatty and fat-producing foods. There is no doubt that the facility for regulation of diet at some spas, such as Carlsbad, has greatly helped in their reputation for the treatment of certain affections, especially diabetes and obesity. Spas where by a strict *à la carte* system of dining the carrying out of dietetic rules is made comparatively easy are likely to outstrip their rivals where a *table d'hôte* system

prevails. Moreover, the strict quantitative limitation of the evening meal must have had, and still does have, a wholesome effect at many health resorts. The patients can go to bed earlier after a light meal—a great advantage when they have to rise at a very early hour to drink the waters—and in most persons when free from excessive mental work the digestive powers are probably strongest during the middle of the day. In many persons, also, temporary discontinuance of strong tea or coffee in the morning can do no harm, and can best be carried out at health resorts during periods of rest from the mental work of ordinary life. The substitution of farinaceous soup, &c., which formerly constituted the morning meal at various spas, might still often be recommended.

THE INDIAN RISING.

THE rapid spread and extension of the rising among the tribal populations on the Indian frontier, especially at the present time, when India is only just emerging from a series of calamities of plague, pestilence, famine, and earthquake, is a grave business. The revolt of the tribes seems to have been quite unexpected by the Indian Government; and, notwithstanding that it has a large force in and about the frontier, the season is an unfortunate one for commencing military operations in a mountainous and very difficult country, and the transport and commissariat arrangements for such an expedition cannot be made without some necessary loss of time. Those who are opposed to the "forward policy" followed by the Indian Government will, of course, attribute the insurrection among the hill tribes to this cause, and probably with a certain measure of truth, but what has now to be done is to act and not to argue. The rising must meanwhile be put down, and the Khyber Pass and that of Kohat secured if we are not to lose military prestige and meet with further difficulties and disaffection. The task is an arduous and expensive one, but it has to be accomplished. An expedition at this season will, we fear, be attended with a good deal of inefficiency on account of sickness among the troops, and great demands will be made upon the military medical services in India. The strength and efficiency of the field hospital system of that country will be put to the test. We may add, however, that there is every reason to believe it is in a very different and improved condition to that which existed at the beginning of the last Afghan campaigns. Some difficulty will, we imagine, arise from the numerical strength of the medical departments being insufficient to cope with all the work that has to be performed in India at the present time. Malarious fever, often of a severe type, is usually prevalent in the Peshawar valley at this season, and cases of dysentery and enteric fever will almost certainly occur among the troops. Up to the present time the health of those taking part in the different expeditions is reported to be good.

TREATMENT OF PULMONARY TUBERCULOSIS.

FROM the time that Koch startled the medical world by the discovery of tuberculin numerous attempts have been made to purify this substance and so avoid the injurious effects produced by it. Hitherto these efforts have not met with success, although it is too early to speak definitely of Koch's new tuberculin. In the *Medical News* (New York) of July 3rd a most interesting paper appeared by Dr. J. O. Hirschfelder, of San Francisco, detailing certain experiments made by him. He proposed a theory that is certainly original. This theory was not evolved from the therapeutical results of his injections, but "the method of treatment was a consequence of the biological proposition." He drew attention to the successful results which had followed operations for tuberculous peritonitis, and stated his opinion that "it appears most probable that in these cases the entrance of air into the peritoneal cavity must have been the important factor; that an oxidation of the tuberculin present in the effusion was thus brought about; and that it was this oxytuberculin which effected the cure both of the local and of the general tuberculosis." Acting upon this hypothesis the problem of finding a method of oxidising the toxin without completely destroying it presented itself, and various methods of accomplishing this result were investigated. Dr. Hirschfelder found in the course of his experiments that the peroxide of hydrogen was the substance for which he was seeking. He then gave a detailed description of the preparation of his tuberculin and the method of oxidising it, and remarked that the greatest possible care was necessary in the preparation of this oxytuberculin, for if any appreciable quantity should escape oxidation fatal tuberculin poisoning might result from the large quantities which must be administered. The liquid when injected caused no greater local disturbance than any indifferent fluid would produce. There was no rise of temperature or any other unpleasant constitutional effect. Within a few days the cough and expectoration diminished, and the most striking effect was the rapid improvement in the appearance of the patient. He further went on to say: "The patients that have been treated by me with the oxytuberclin, those who came in the very early stage of the disease before cavities were present, have been rapidly cured ..... Patients in whom the disease was moderately advanced have likewise rapidly improved, and some have entirely recovered. Of the very advanced cases, many have shown marked improvement, and many patients that I have declined to treat as being too far advanced, but who pleaded so hard for the treatment that I could not refuse, have impressed me by the wonderful improvement they have shown." Tables were printed at the end of the paper giving the number of patients and the treatment at various stages of the disease, and the results as shown were certainly very satisfactory. We cannot comment further until more extended observations have been made, and meanwhile await with interest the results obtained by other physicians who may use oxytuberculin in the treatment of tuberculosis, pulmonary and otherwise.

SICILY AS A HEALTH RESORT

OUR Rome correspondent, under date Aug. 30th, writes:—"A mass of correspondence before me attests the impulse, as opportune as it is welcome, given by THE LANCET to Sicily's development as a health resort. The whole island, now that its advantages in point of climate, internal resource, and general attractiveness have received the *imprimatur* of medical science, seems to have realised the future that lies within its grasp, socially and economically, if only it follows up the indications and suggestions so clearly set forth. Take, for example, that lovely seaboard winding gently inland between Palermo and Cefalù—a marine exposure rich in attraction of every kind—and pause for a moment at the balneary station of Termini-Imerese. It is difficult to say whether the advantages of the place are more pronounced in summer or in winter—the former season admitting of *al fresco* bathing under the most favourable conditions and for a longer period than elsewhere; the latter with its supply of thermal waters only awaiting more effective utilisation than its 'Stabilimento microscopico' (as a correspondent playfully calls it) has hitherto vouchsafed. For Termini-Imerese possesses in a degree but partially shared by other thermal resorts in Italy, and hardly shared at all by its transalpine sisters, the advantage of being as available for the 'cura sudorifera' and for all-round balneary treatment during the winter months as during the summer. The opportunity, indeed, of combining escape from a northern winter

with the prosecution of a thermo-mineral 'cure' is one which many a British sufferer from gout or rheumatic arthritis would eagerly embrace, and Termini-Imerese presents this under every desirable condition, essential and accessory, except one, and that is the 'Stabilimento' itself. As already said, this establishment is on a very small—well-nigh Liliputian—scale, sufficient, possibly, for those who have hitherto frequented it, but quite unequal to the *clientèle* which nature and science clearly mark out for it. As a correspondent suggests, it has remained in this undeveloped condition because, between Cefalù and Solunto, it has always been absolutely without a rival, which is another way of saying that the balneary resources of that exceptionally favoured line of coast have had, like Sicily generally, to await such a demonstration as THE LANCET has been the first to give. But, as I now learn, it will not long be allowed this excuse for neglect of opportunity. The spirit of competition is awake and abroad, and in self-defence, if from no other motive, Termini-Imerese will have to 'march with the times' and add to its accommodation and appointments if it is not to be distanced by more enterprising neighbours. The requirements of civilisation—particularly of English-speaking civilisation—'che le attrattive del sito e le esigenze dei tempi reclamano a voce alta' (which the attractions of the situation and the conditions of the times so loudly demand) will have to be complied with; and then, but not till then, we shall see Termini-Imerese taking its proper place among less favoured rivals in counterpoising the 'Riviera Levante' and the 'Riviera Ponente' by a yet more to be recommended 'Riviera Siciliana.'"

CHOLERA IN THE DONGOLA EXPEDITIONARY FORCE, 1896.

WE may safely congratulate Brigade-Surgeon-Lieutenant-Colonel Gallwey not only upon his report,[1] but also upon the successful way in which he and the medical officers under him treated the cholera epidemic which so inconveniently hampered last year's military advance upon Dongola. Campaigning in the Soudan means warring against any dervishes who happen to be in that part of the desert, but it means much more—fighting against the elements of nature and getting gunboats through difficult cataracts during the few weeks of high Nile flood. Consequently the expedition had to continue its advance in spite of cholera, and the sanitary duties were necessarily subordinated to the hard work of the campaign. The infection reached Assouan by means of a native servant on June 8th; the first case in the Egyptian army occurred on June 12th and the last on Aug. 31st. The only time the disease became in the least virulent was from the end of June to the end of July, and the whole epidemic spread over 500 miles of river, road, and railway. Details are given of one healthy regiment which reached a cholera-infected barge on June 12th and developed cholera on the 14th; also a second regiment which arrived healthy on June 21st, while cholera broke out in it on the 23rd. We therefore fail to see why the writer in two places states that the incubation stage was usually seven or eight days. From the experience of three separate outbreaks he points out that the disease may be stamped out in six days in a military camp where early intelligence of the first case is received, where absolute control is possible, and where the water-supply can be efficiently protected from contamination. He is evidently a consistent believer that cholera is a water-borne disease, and though "it was not possible to boil drinking water for the troops protection of the supply formed the chief point in all camps." The regulations for barge traffic, for camp followers, and for native villagers were well planned and carried out, and included notification, isolation, disinfection of personal effects by boiling, and of dwelling places by disinfectants. The military cases numbered 403, with a death-rate of 58 per cent.; the civilians furnished 897 cases of cholera, with the higher death-rate of 82 per cent. It is satisfactory to note that in the Egyptian army of 16 000 men "not a single attendant on patients contracted the disease." Many of our readers will remember that Surgeon-Captain Trask, while on inspection duty, contracted cholera at Ferket on the morning of July 25th, and died the same afternoon.

[1] Cholera Report of Frontier Mudiria and Dongola Expeditionary Force, 1896; pp. 15.

DEATH OF DR. ALFRED HALL, OF BRIGHTON.

WE have to record the death on Aug. 30th of Dr. Alfred Hall, of 75, Lansdowne-place, Brighton. His work was long since done and his age was ripe; but his stately form, his genial face, and his kind heart were all in evidence till a very recent period—a fact which makes his removal still to seem premature. Dr. Hall attended as physician both the Founder of THE LANCET and his wife, and a link with the past of peculiar interest to ourselves is now broken. We hope next week to give more detailed notice of his life.

OXIDE OF IRON IN BACTERIA.

THE association of oxide of iron with certain bacteria has been remarked by various observers, and an instance of this phenomenon occurring on a large scale has been investigated by Professor Manabu Miyoshi, who holds the chair of botany in the University of Tokio in Japan. His observations are published in German, and appear in Vol. X. of the *Journal* of the College of Science, Imperial University, Japan. The material examined by him was a ferruginous mud from the hot springs of Ikao; it is formed upon stones and earth under the influence of the warm ferruginous water which trickles from crevices in the rocks, and on account of its therapeutic properties it is often collected by persons who go to the springs to bathe. This mud consists entirely of bacteria, and can be easily separated from the ferruginous matter which contains few or no bacteria, as it has a pale ochre-yellow colour, and a homogeneous, fibrous, slimy consistence, whereas the latter is of a dirty brown colour and a finely granular consistence. Microscopic examination proves that the mud consists entirely of bacteria cells. The smallest possible portion spread evenly on a cover-glass and dried over a spirit lamp shows innumerable yellow, thread-like cells of unequal length, varying from $\frac{1}{2}\mu$ to 1μ in diameter; they are both straight and curved, and they may be either solitary or grouped in masses. With these thread-like cells there are mingled a number of minute rod-shaped cells. The bacteria seem to resemble the *Leptothrix ochracea* of Kütz; further observations are necessary in order to determine whether they are a new species or not. When the cells are treated with moderately strong hydrochloric acid they not only lose their yellow colour but their outline disappears without leaving a trace behind, and the subsequent addition of ferrocyanide of potassium produces the blue colour characteristic of iron. If a much weaker acid is applied to one side of the preparation the cells become gradually decolourised, and ultimately there remain hyaline fragments of cells, which are seen with difficulty but become easily visible after staining with fuchsin solution. The action of hydrochloric acid led Professor Manabu Miyoshi to believe that the oxide of iron is not deposited on the walls of the cells, but is more or less intimately incorporated with them. The cell walls were entirely free from coarse granules, but on careful examination with Zeiss's $\frac{1}{12}$ immersion lens and No. 4 eyepiece he found extremely minute particles on many cells. In addition to the thread-like and rod-shaped cells the bacterial mass contained a small number of cells resembling

spirochæta (some of them similar to the *spirillum ferrugineum* of De Thoni), which were often associated in ramifying groups. No others of the more common iron-containing bacteria—such, for instance, as *crenothrix Kühniana* (Rabenhorst)—were found in this particular mud, but fragments of broad, thread-like cells, with diagonal walls, were sometimes seen, which were probably psichohormium; diatoms were also often observed in the less pure portions of the mud. On account of the minuteness of the bacteria cells it could not be determined whether they contained plasma or not. The natural conditions at these mineral springs are highly favourable to the growth of bacteria; the water contains 0·021 gramme of bicarbonate of iron per litre, and has a temperature varying from 41° to 45° C.

THE ISOLATION OF CONVALESCENTS FROM DIPHTHERIA.

IT is well known that diphtheria bacilli are sometimes to be found in the throats of patients long after recovery from the clinical symptoms of the disease is complete, and under such circumstances both these convalescents and their relatives may be very sceptical when informed that the risk of infection being communicated to others is not yet at an end. In a series of 605 cases of diphtheria the bacteriologists of the New York Health Department found that in 304 cases the bacilli disappeared within three days. In 301 cases they persisted for a longer time—viz., in 176 cases for seven days, in 64 cases for twelve days, in 36 cases for fifteen days, in 12 cases for three weeks, in 4 cases for four weeks, in 4 cases for five weeks, and in 2 cases for nine weeks. With reference to this subject the Department makes the following important statement: "The bacilli which, in a certain proportion of cases, persist in the throat after an attack of diphtheria, are always virulent for some time. In the exceptional cases in which the bacilli persist for a very long time it is found that they occasionally lose their virulence a few days before their final disappearance, while in other cases they retain their virulence to the end." The rule laid down by the Department in its circular of May 1st, 1896, is in the following terms: "Persons who have suffered from diphtheria should be kept isolated until cultures prove that the bacilli have disappeared from the throat. When cultures cannot be made, isolation should be continued for at least three weeks after the membrane is gone."

UNQUALIFIED ASSISTANTS AND DEATH CERTIFICATES.

WE have often remarked on the little effect that seems to be produced on certain practitioners and their unqualified assistants by the publication of offences under the Registration or Medical Acts, and of the grave penalties incurred thereby. One offender succeeds another protesting entire ignorance of the previous offences and their punishments. All the newspapers of London lately gave publicity to a case in Islington where an unqualified assistant who ought to have known better forged a certificate of death and was duly punished for it. Now in the very same parish the superintendent registrar exposes before the coroner another case where a poor woman took her child to the surgery of Mr. Day, 1, Benwell-road, N., the patient being prescribed for by Mr. Charles Day's son—Mr. Alfred Harry Day—who had assisted his father for twenty years, but had had no other medical education. He attended the child till death, and then gave a certificate in his father's name. In this case, as distinguished from the other, medical evidence was given by Mr. Jackson Clarke, who had made a post-mortem examination. He found catarrh of the stomach, and regarded the treatment as being usual in such cases, and the cause of death as natural. Of course, this does not dispose, as the coroner said, of questions that may be raised elsewhere. It was explained that the wife of Mr. Day, senior, had died, and that Mr. Day was absent from town in consequence. Everyone will sympathise with Mr. Day in this respect, but it is to be regretted that he did not make provision for having his patients seen by a registered *locum tenens*.

DEATH OF DR. BRAXTON HICKS.

THE death is announced of Dr. J. Braxton Hicks, F.R.S., who has been residing in Lymington, Hampshire, since his retirement from practice. Next week we hope to publish an extended notice of the career of this distinguished obstetrician.

ACUTE PNEUMOCOCCUS INFECTION.

DR. W. R. TOWNSEND describes in the *New York Polyclinic* an unusual case of bacterial infection, the patient being a girl, six years of age, who required to have a tenotomy performed and was consequently admitted to the Hospital for the Relief of the Ruptured and Crippled. At the time of admission she was otherwise in very good health, but a few days afterwards she suffered from abdominal pain and vomiting, her temperature at the same time rising to 104·2° F. Her throat was congested, but showed no exudation, and bacteriological examination yielded no result. She had a slight convulsion twenty-four hours after the commencement of the symptoms, and six hours later she died. A post-mortem examination was made fourteen hours after death, the appearances noted being as follows: The body was fairly well nourished. The brain was normal, but the pia mater was congested. Both lower lobes of the lungs were intensely congested and œdematous, the bronchi contained frothy mucus, and the lining membrane was reddened. The spleen was congested and soft. The kidneys were normal in size, their capsules were adherent in several places, the cortex was thickened, and the markings were very indistinct. Bacteriological examination showed a general pneumococcus infection complicated by a streptococcus infection of the blood of the lungs and heart. The brain contained pneumococci. The blood in the heart, the lower lobes of both lungs, the spleen, and both kidneys contained pneumococci and streptococci. The case is a highly interesting one and is moreover a notable example of the value of bacteriology in diagnosis.

THE EMPLOYMENT OF GLOVES IN SURGERY.

FOR some time past Dr. J. Mikulicz, who is Professor of Surgery in the Faculty of Medicine at Breslau, has been in the habit of wearing gloves while performing most of his operations, and especially when engaged in laparotomy. If, however, the intervention is connected with regions that are specially exposed to infection—such, for example, as the rectum, the urethra, or the buccal cavity—he does not cover his hands, holding that gloves under such circumstances could only favour contamination by helping to convey noxious germs from the diseased parts to those still remaining healthy. Unlike Dr. Zoge von Manteuffel, Dr. Mikulicz does not make use of india-rubber gloves, as he finds them embarrassing, but employs the ordinary thread article, which can be readily washed and sterilised under steam. All the assistants and attendants have to wear gloves like the surgeon, but as thread gloves are, of course, far from impermeable the wearers are required before putting them on to disinfect their hands by means of alcohol and corrosive sublimate. As a rule a single pair of gloves suffices for a short operation, but when the intervention is of longer duration two or

more pairs are used in succession. As an additional precaution Dr. Mikulicz likewise dons a muslin mask when about to operate; it is suspended from his calotte, and covers his nose, mouth, and beard in such a way that neither speech nor respiration is interfered with, while the wearer can even cough or sneeze without any risk to the patient. According to a French medical journal[1] Dr. Mikulicz has obtained very satisfactory results since he adopted the above-mentioned method of procedure. Formerly in his practice operation wounds used frequently to become infected, while suppuration round suture-points was of constant occurrence, but now these disheartening complications never by any chance show themselves. He consequently looks upon gloves as an unfailing remedy for the greatest defect of modern aseptic surgery, to wit, the insufficient disinfection of the hands of the operator. The above-quoted authority further states that Dr. Küstner, Professor of Obstetrics at Breslau, wears thread gloves in all his laparotomies, and that Professor Trendelenburg, of Leipzig, and his assistant, Dr. G. Perthes, both make use of long gloves of fine silk reaching to their elbows.

WE desire to express to the Postmaster-General of Canada our hearty thanks for the kind privileges accorded to us in connexion with the posting of our Special Canadian Supplement of THE LANCET throughout the Dominion. Owing to the liberality of his department the distribution of copies to the entire medical profession of Canada will be effected at a merely nominal cost.

SIR WILLIAM GOWERS, M.D. Lond., F.R.S., has been elected an honorary member of the Société des Médecins Russes de St. Petersbourg. This society is one of the oldest in Russia, dating from 1833, and almost the only one instituted in the reign of Nicholas I. The present president is Professor Popoff.

THE total contributions to the Prince of Wales's Hospital Fund for London up to September 1st (excluding the proceeds of the sale of the hospital stamps) amounted to £181,741 12*s.* 9*d.*

DR. THOMAS D. REED has been appointed to the Commission of the Peace for the district of Montreal, Canada. The commission was gazetted on July 24th last.

THE Sixth Report of the Royal Commission appointed to inquire into the subject of Vaccination, with minutes of evidence and appendices, was issued on Wednesday last.

WE are informed that the University of Cambridge was represented at the International Medical Congress at Moscow by Professor T. Clifford Allbutt.

Pharmacology and Therapeutics.

EFFECTS OF PYOGENIC MICROBES AND THEIR TOXINS.

DR. MOLODOVSKI publishes in the form of a Thesis for the St. Petersburg M.D. an account of a series of observations on the comparative effects in ophthalmic operations of infection with a pure culture of staphylococcus pyogenes aureus and with the toxin of this microbe. His experiments were conducted on rabbits, the wounds being infected with two days old cultures or with toxin obtained by filtration of cultures through a Chamberland's filter. In another set of experiments the toxin was introduced into the anterior chamber of an eye that had been operated upon to the amount of 0·2 cubic centimetre. Altogether sixty-five experiments were made. Twenty-four hours after the infection of a wound involving the cornea only, or the cornea and also the lens, by a culture, muco-purulent inflammation developed in the conjunctiva together with purulent iritis. A wound of a more serious nature naturally produced even more grave complications. Thus, when the lens was extracted without any loss of vitreous, infection with colonies of pyogenic cocci caused purulent inflammation of the iris and choroid, while if the extraction of the lens was accompanied by loss of vitreous the whole of the coats of the eye were involved—that is to say, panophthalmitis resulted. When the toxin was employed as the infective agent and the operation was confined to wounding the cornea and lens, simple catarrh of the conjunctiva with serous inflammation of the iris and ciliary body with hyperæmia of the anterior portion of the choroid resulted. When the lens was extracted with or without loss of vitreous the serous inflammation involved the choroid. All the wounds infected by the culture became purulent, but those infected with the toxin only healed by first intention. The development of inflammatory signs was slower in the case of cultures than in that of the toxin, but was of much longer duration, continuing indeed long after the toxin inflammation had ceased and the wound had cicatrised. When the toxin was introduced into the anterior chamber of an eye that had been operated on it was found that if the lens had only been incised the inflammation set up was not of a serious character, the lesion being cured generally in about a fortnight. If the lens had been extracted without loss of vitreous, capillary inflammation of the iris and ciliary body occurred, with the result in the majority of cases of loss of the eye from formation of connective tissue in the anterior chamber. When the extraction of the lens had been accompanied by loss of vitreous the result was in all cases fatal to the organ from development of connective tissue both in the anterior and in the posterior chamber. A somewhat similar series of 127 experiments has been made by Dr. Solovieff on the comparative effect of cultures of pyogenic microbes and the toxins produced by them on rabbits' eyes that had not been operated on. The conjunctival sac of the rabbit's eye appears to form an excellent culture medium for these organisms, and when a pure culture of the staphylococcus pyogenes aureus or of a pyogenic streptococcus is introduced into the sac some catarrh is produced, which, however, soon passes off. The toxin of the staphylococcus produces more effect—acute conjunctivitis lasting for one or two days—and the toxin of the streptococcus a still more acute form of inflammation with extravasations of blood in the conjunctiva. Both toxins also pass into the cornea, the former producing infiltration of that body together with serous inflammation of the iris, and the latter toxin causing inflammation of the cornea and capillary inflammation of the iris and ciliary body. Inoculation of the cornea either with one of the cultures or with one of the toxins sets up purulent keratitis with hypopyon and cyclitis. Introduction of one of the cultures into the interior chamber produces purulent inflammation of the whole of the coats of the eye with ultimate atrophy of the organ. When the toxins are introduced into the anterior chamber the same results are obtained as when they are used to inoculate the cornea. When the cocci are introduced directly into the posterior chamber violent inflammation is at once set up which destroys the organ. The toxins introduced into the posterior chamber produce the same effects on the deep structures of the eye as are observed when the cultures are introduced into the anterior chamber. Neither the microbes nor their toxins when introduced into the vitreous humour appear to penetrate into the substance of the brain or even into the optic nerve, owing probably to the closing of the lymphatic canals by the violence of the inflammatory process, so that however serious their presence may be for the eye there does not seem to be much danger to life in such cases by extension of the inflammation to the cerebral membranes or to the brain itself.

[1] Gazette Hebdomadaire des Sciences Médicales de Bordeaux.

NOTE UPON THE TOXIC EFFECTS OF THE SWEAT OF A HEALTHY MAN.[1]

BY S. ARLOING.

I.

THE toxic character of sweat eliminated in the course of an infectious disease ("*d'une infection*") is generally admitted at the present day; but that of sweat from a

[1] Translated from Comptes Rendus, vol. cxxv., No. 4, July 26th, 1897, p. 218.

healthy man is much disputed, notwithstanding that the older physicians attributed to the secretion of the sudoriparous glands a definitely depurative action. This question can only be put to the test by injecting into the blood of animals suitably chosen sweat secreted by healthy human subjects. In consequence probably of the difficulty encountered in procuring the reagent the question has been attacked by very few experimenters. So far as I am aware Röhrig and Queirolo alone have experimented with injections of sweat. The first named, who made only a single injection upon a rabbit, came to the conclusion that the effect was toxic; the second, who made fourteen injections, thinks that the sweat of healthy persons does not eliminate any toxic substance. I have thought it necessary to renew the study of this subject, and have obtained the elements of sweat by divers processes and many specimens of normal sweat, thanks to the coöperation of M. Berthe and Dr. Sonrel. The experiments have accordingly been very various. From all these experiments I have come definitely to the conclusion that toxic matters are present in the sweat of a healthy man. Injected into the blood sweat causes the death of a dog following upon an average dose of 15 c.c per kilogramme of the living animal; of a rabbit with a dose of 25 c.c. after an interval of from twenty-four to sixty-two hours. It will also kill a guinea-pig if introduced in a sufficient dose subcutaneously into the peritoneum or the connective tissue. Although I have not yet produced immediate death, the injections always occasion an illness of a certain duration. The duration of the illness, the gravity of the symptoms, and the dose necessary to cause death vary with the conditions under which the sudoriparous glands have performed their functions. For instance, sweat secreted under violent muscular exertion possesses a toxic efficacy exceeding by one-fourth or even by one-third part the ordinary toxicity. Furthermore, other things being equal, sweat obtained by artificial sudorific means exhibits a minimum of toxicity.[2]

The toxicity of normal sweat being established, I proceeded to ascertain the nature of the poisoning, and take for illustration the troubles experienced by a dog. As a general rule the introduction into the jugular vein of the first quantities of sweat occasions a lively excitement, quickly followed by a remarkable sedative effect, which continues throughout the course of the injections. The dog is thrown into a state of the most complete calm, the eyelids are half-closed, under the influence as might be supposed of a narcotic; but it is nothing of the kind, for the dog briskly regains its feet if set at liberty. Very soon it becomes profoundly miserable. The principal muscles are attacked by tremblings. The eyes are tearful. At this stage the temperature is notably elevated, and it may be observed that the dog is attacked by disorders of the digestive system, such as repeated vomitings, at first alimentary, afterwards bilious; abdominal pains; diarrhœic stools; strainings (*épreintes*), and sometimes slight intestinal hæmorrhages. The breathing is short and rapid. The beating of the heart, much accelerated at first, resumes after some hours its ordinary rhythm; then it becomes accelerated afresh and gradually feebler. The arteries are soft and compressible and the pulse is barely perceptible. The extremities become cold, the animal grows indifferent to its surroundings, its prostration becomes extreme, its temperature falls below the normal, and finally it succumbs after having exhibited a series of symptoms which strikingly recall those that follow upon the administration of certain microbic toxins. When the poison does not assume this aggravated form the malady lasts for several days. The animals manifest an improvement at the end of four-and-twenty hours—a transient improvement, followed by a moderate degree of fever, loss of appetite, profound exhaustion, and sometimes a loss of power in the members bordering on paralysis. In this case, as in the preceding, the subject succumbs with subnormal temperature. If the dose of sweat injected is less strong or the subject more resisting two results may follow: the animal may recover completely or it may fall into a cachectic condition which carries it off in the space of from fifteen to thirty days.

Having thus given a summary account of sweat poisoning I propose to give details of some of the principal disturbances. In this note I will deal with the troubles arising to the circulation which I have studied minutely with the aid of the graphic method. When first introduced into the blood the sweat produces disturbances of which the intensity varies with the degree of toxicity or of concentration. They are exhibited from ten to twenty seconds after the commencement of the injection. Amid manifestations of excitement, cries, and complaints, the pulse suddenly becomes small and accelerated; from 120 pulsations a minute it mounts to 240 and 300; simultaneously the arterial pressure rises and attains sometimes 200 mm., then rapidly falls to about 70 mm. Considering the rapid descent of the curve and the smallness of the pulse one begins to fear for the life of the subject, and this the more since these symptoms usually coincide with irregular and superficial respiration. With certain animals and certain kinds of sweat these troubles are less acute, and being more moderate they are more easy to observe. They are least when the sweat employed is a secretion obtained artificially after long repose. This crisis is feeble or absent after subsequent injections. The crisis over, the pressure gradually falls and reaches a point below the initial pressure; the heart becomes calm and beats with greater energy, so that after an hour or an hour and a half the circulation is no longer disturbed in proportion to the gravity of the situation. But if the animal be left to itself for eight or ten hours, and then the arterial system be again examined by means of graphic apparatus, a considerable fall of arterial pressure and acceleration and enfeeblement of the pulse will be detected. Thus, in one experiment before injection the pressure amounted to 176 mm. of mercury and the pulse was 96. One and a half hours after the injection of the poison the pressure had fallen to 160 mm. and the pulse had gone up to 120. Nine hours later the pressure was 110 mm. and the pulse 156. This noticeable change in the pressure, pulse, and heart coincides with the phase of prostration and with the establishment of an abundant sero-sanguineous exudation (*exhalation séro-sanguinolente*) upon the gastro-intestinal mucous membrane rather than with any general phenomenon of vaso-motor dilatation. I have observed that at the moment of most severe distress in the circulatory system, when the pulse is most accelerated, the excitability of the moderating nerves of the heart remains intact. The sudoral poison therefore acts chiefly upon heart exciting centres and the muscular fibre of the heart.

In a subsequent note I propose to examine the disturbance occasioned to other important functions.

[2] Vide Comptes Rendus de la Société de Biologie, séances du 19 Décembre, 1896, et du 29 Mai, 1897.

IMMORALITY AMONG SCHOOL BOYS.

BY MAURICE C. HIME, M.A., LL.D.,
SOMETIME HEAD MASTER OF FOYLE COLLEGE, LONDONDERRY.

I RECEIVED so many letters concerning the special form of immorality indicated in the above heading from readers of THE LANCET since the appearance of a letter signed "Father" in its columns,[1] that it seems to me to be of sufficient general interest to justify me in asking for space wherein to express the result of my thirty years' experience as a head master in regard to this vice at somewhat greater length than I could conveniently adopt in a letter to each of my several correspondents.

I will speak, first, of the prevalence of the vice in boys' schools; next, of the duty of headmasters regarding it; thirdly, of the best means of preventing and checking it; and I will conclude with a few words of encouragement to the educator, whether schoolmaster or father, who strenuously exerts himself, with the help of God, to safeguard the boys entrusted to his charge from the sin in question.

That the vice exists, to a greater or less degree, wherever many boys are gathered together under one roof, who with any knowledge of boys will deny? Some schoolmasters have spoken to their pupils on the subject; others have written pamphlets about it for private circulation; others have urged fathers to caution their sons concerning it before sending them to school; purity societies have issued leaflets that can be purchased at their offices; and medical men have published books, numerous and important, on its cause and cure. And yet, the above facts notwithstanding, hundreds of head masters go on year after year as if blind to this truth,

[1] THE LANCET, June 12th, 1897, p. 1649.

ignorant or affecting to be ignorant of it. It is so painful to believe. As well expect a neglected garden to be free from weeds as a school managed by one of these "blind guides" to be free from this vice. How absurd to suppose that the devil, who forced his way into Paradise, will not force his way also into boys' schools, most of all into those schools the head masters of which "having eyes see not, having ears hear not, neither do they understand"!

The prevalence of this vice in most boys' schools may accordingly be taken for granted. This then being so, it follows that every professional educator is plainly bound by the duties attaching to his office to endeavour by all means in his power to defend his pupils, and help them to defend themselves, from this and every other pollution. Educator I say, rather than schoolmaster; for a schoolmaster's duty is far more, be it noted, than merely to instruct his pupils in classics, mathematics, and the other school subjects. "Oh, but let fathers warn their sons of the prevalence and deadly nature of this vice before sending them to school. It is their duty to do so." Undoubtedly, it would be satisfactory if fathers were to forewarn their sons of the terrible temptations and dangers awaiting them at school, showing them how these temptations may be best resisted, and pointing out to them the fearful consequences of yielding to them. As a general rule, however, boys are not forewarned on the subject, as schoolmasters are only too well aware. Are schoolmasters, therefore, themselves to neglect warning them because their fathers have done so? Is A to shirk his duty because B shirks his? Furthermore, there are some boys whose fathers are dead; others whose fathers are dull, coarse, and indifferent, not caring a straw how their sons conduct themselves at school; others whose fathers are themselves sensualists of the commonest type; others whose fathers are so particularly fastidious, so hyper-sensitive, as to be unable, or at least unwilling, to speak to their sons on such an unsavoury subject. And what of the sons of such parents as any of the above? In short, it is all nonsense a schoolmaster's trying to evade his own obvious duty and impose it on someone else. By his own voluntary undertaking, of his own freewill and accord, the schoolmaster professes to develop the religious and moral as well as the intellectual faculties of his pupils, for the performance of which duty he receives, not only fees from their parents, but also in many cases an endowment, as headmaster of the school, as well. The schoolmaster who does not faithfully discharge this his manifest duty is indubitably an unfaithful steward, and utterly unworthy of the noble, self-sought name of educator.

As to the best means of preventing and checking this vice opinions will differ. The following I personally have found effectual. I will divide them into A, school arrangement; and B, moral suasion.

A.—1. Cubicles I would have none of. The dormitories in Foyle College had been fitted up with cubicles shortly before my appointment as headmaster, but I insisted on their being removed before I undertook the duties of my office. Cubicles I regard as mere inventions of Satan the better to enable boys, weak-minded or sensually disposed, secretly to indulge in odious habits. Cubicles are, besides, productive of increased dust, dirt, gloominess, disagreeable smells, and defective ventilation. Well ventilated, airy dormitories, with rows of beds, not too close, that can be all seen at a glance by the superintending master, with a master's bedroom at opening of each dormitory, were an essential part of my system; besides, the manly and good boys, who are always in a considerable majority in every well-regulated school, render in such dormitories the practice of this vice well-nigh impossible. Such odiousness would not be tolerated by them for a moment. But where there are cubicles it can, obviously, go on with impunity, unchecked, in secret, no matter how excellent the tone of the school may be. 2. Lying in bed in the morning—"soaking," as the boys express it—was discountenanced in every way. At a certain hour every morning the bell for getting up rang, and the moment it rang it was the duty of the master in charge to oblige the boys to get up—on Sundays and holidays just as promptly as on working days. The prolonged enjoyment of luxurious sloth is apt to demoralise even the best-disposed. 3. A sufficiently large staff of masters to enable me to have one or another of them always on duty during play hours was another essential part of my system. The companionship of a suitable master was always agreeable to the boys. He helped them with their games, prohibited loafing, bullying, filthy conversation, profane language, and other juvenile misdemeanours, while his very presence made smoking an impossibility. On the injury done to the growing brain and growing body of a little boy by the use of tobacco I need not dwell, neither need I dwell upon the sneaking, underhandedness, falsehoods, deceptions, misspending of pocket money, with the common results of such mis-expenditure, inseparable from indulgence at school in the forbidden weed. 4. Intimacies between older and younger boys were discouraged. I seldom or never observed such a friendship springing up without suspecting that, in all probability, the younger boy was being injured by the older one—instructed or misinstructed in forbidden things, rendered conceited, spoilt for companions of his own age, and so forth. 5. The letting out of boys during school-hours "for a minute," as the request to go out is generally worded, was reduced to a system. Only one boy was let out at a time, and on one master, and that my principal master, devolved the duty of giving or refusing, according to his discretion, the asked-for permission. The boy was expected not to remain outside for more than three or four minutes at the very most. Going out during school-hours was, in short, a good deal discountenanced. Boys were trained to expect that they would generally be required to remain in the schoolroom for as long, say, as a two hours' railway journey, or an ordinary Sunday morning church service. Think of the iniquities that have been transacted by boys in privies at schools where little or no vigilance was exercised by those in authority in regard to the number and the characters of the boys let out at once, or the length of time that they might stay out! The card playing, drinking, shameful bullying, and beastliness of every kind! I speak now from my own personal experience as a boy, and that in more than one school. The longest continuous period of class instruction—three hours—I broke up in the middle by permitting, or rather compelling, every boy then to leave the school for ten minutes' relaxation, during which period the doors and windows were all opened wide for ventilation purposes. Concerning the conduct of the boys during these ten minutes I entertained no misgivings. There is safety in a multitude, and all the more so when the great mass of the multitude is right-minded and well-disposed. When the great mass of the boys in a school is not right-minded and well-disposed there must be something strangely amiss in the head master; he would certainly not appear to me to be the right man in the right place. 6. Occupation of some sort, whether in the playfield or, on a wet day, in or about the school, was insisted on. Out-door games were obligatory on all boys except those forbidden them by a medical man—an exceedingly small, but usually most troublesome, minority. Where out-door games are not compulsory there there will be loafing. Where there is loafing, there impure thoughts—if not filthy acts and filthy talking—will be indulged in. The letting off of superfluous energy by means of out-door games—long walks being substituted for these games on Sundays—contributes much to the suppression of the lusts of the flesh in boy and man alike. "That Satan finds," &c., is a proverb that, where schoolboys are concerned, contains so much solemn truth that one wonders how it is that any schoolmaster can ever endure to see his boys loafing about unoccupied. "Work or play," "Labour or refreshment," should be the motto of every school. Boys thus incessantly occupied have no time for impurity, no desire for impurity—none, at least, compared with that pervading the hearts of the unemployed. 7. Reading during play hours was not allowed. The reading of fiction, except such fiction as the boys' mothers or sisters might safely read, was not allowed at any time. The mischief done to boys by the reading of highly sensational immoral literature is incalculable. 8. There was a rule in my prospectus that "The trousers must have no pockets in them." To see boys sitting or slouching about continually fumbling with their hands in their trousers' pockets or, only a degree worse, between their trousers and their skin or shirt, was more than I could endure with unruffled temper. The objections to the habit are obvious; it is dirty, disgusting, loathsome, ungainly. So far for the school arrangements. And, with much respect, I would like to add that, quite apart from their special bearing on the vice treated of, these arrangements will not be found unprofitable in any school.

B.—As to the moral suasion method, I on one occasion seriously addressed the boys when all specially assembled together, concerning this secret, unmentionable sin. I spoke

to them at once so pointedly that the guilty boys all quickly understood what I was speaking about, yet so generally that none of the others did. They only knew that I was speaking about something awful, and that the less thought or spoken about it the better. I explained to them how that a vice to which some misguided boys were addicted was (α) a sin—impurity of every kind, the impure thought and look as well as the impure act, being forbidden by Jesus; (β) unnatural—the best part of our nature, conscience, being utterly opposed to it, as was also self-love; and (γ) followed, if persisted in, by the most injurious, sometimes even fatal, physical consequences, such as irritability of the entire nervous system; debility, general or local; injury, irremediable to the sexual organs; overmastering, lustful desire; impotency; insomnia; insanity; idiotcy—although these consequences may be sometimes slow in overtaking the sinner; that, further, the utter deterioration of one's spiritual and moral natures also resulted from indulgence in this sin, sin thus leading on to more and ever more sin. On each of these points I dwelt at some length so as to make them, one and all, perfectly clear to those especially addressed. I, further, explained to them that we schoolmasters were not slow in recognising those guilty of this pernicious self-indulgence; that reverie at class, dislike to out-door games, moping, defective memory, a disinclination to look at one straight in the face, usually mark out these self-polluters. I implored of them to pray to their Heavenly Father, with all the sincerity of which they were capable, and that not once only but every morning and every evening of their lives, that the meditations of their heart, the words of their mouth, and all their acts might be always acceptable in His sight. I entreated of them to take the pledge, as it were, against this accursed sin—a sin so destructive of soul and mind and body alike. I begged of them to busy themselves always with some lawful, innocent occupation, an idle brain being, as they themselves knew, so abundantly prolific of evil thoughts. And, finally, I explained to them what efforts my masters and I were making so as to render it the more easy for them to eschew the terrible evil, telling them the meaning of the different school arrangements that had been made with this object in view, and beseeching them to fall in with these arrangements in the same spirit as that which prompted me in making them, for that I felt sure that, with my boys on my side, Satan could be effectually resisted, but that without their willing assistance my efforts must be, to a great extent, in vain. The boys listened to my address with breathless attention, all of them, with the exception of a few little boys who were evidently innocent of the sin, and did not understand to what exactly I was referring. Boys, I have generally found, not only listen attentively to such warning, but are most grateful for it. Many of them have indulged in the vice without fully realising its exceeding sinfulness, or being in the least aware of the evil consequences, especially as these are so often slow in manifesting themselves. Even when, as sometimes happens, the evil consequences do quickly overtake one guilty of this sin, they are frequently misunderstood, and often assigned to a totally wrong cause.

Such was the tenor and gist of my general address, but my efforts did not end here. To new boys coming subsequently to the college I spoke separately on the same lines, more or less distinctly according to the sort of boy each was and his age. Even the youngest and most innocent boy, I felt, could not but be benefited by being warned generally of the possible temptations awaiting him; of the best means of avoiding and resisting them; and of the injurious effects of sinful self-indulgence of every kind. "But is it not possible that such plain-speaking may do actual harm to the innocent boy?" No; good advice, given at once wisely and affectionately by an experienced and discreet schoolmaster, cannot, I venture to reply, do harm to any boy, good, bad, or indifferent—least of all to the first-named, the innocent boy, who had grown up to boy's estate without, we are supposing, ever dreaming or hearing of this abominable sin. At all events, I, personally, cannot recall any instance of a boy being injured by such warning; whereas I have known numerous instances of boys being immensely benefited by it. The greatest good of the greatest number is, in any case, the object at which we all should aim; and, obviously, there is no way of dealing with this, or any other prevalent sin, at which someone might not be found to cavil. And one thing is clear—this even objectors to the system herein recommended will themselves admit—that, whatever the best course to be adopted in dealing with this abominable practice may be, the usual silent system, the ignoring of the vice as though it did not exist at all, has been the source to mankind of infinite mental and bodily suffering.

Expulsion of the boy reasonably suspected, or actually detected, is the plan adopted by some schoolmasters—an absurd, injurious, and most unfair plan in my opinion. For in the first place the expelled boy may have been by no means the worst or single offender in the school; and accordingly the only effect of the expulsion may be, (*a*) so far as he is concerned, to mar materially his prospects in life, while of his odious self-indulgence he may not be in the least degree cured; and, (*b*) so far as the other boys are concerned, those not detected, to induce them to go on in their sinful ways, only more secretly than ever. For so long as even one boy in a school practises the vice, it is likely to spread. And how much more likely in a school the head master of which is satisfied to believe that the expulsion of a boy and the purifying of his school mean one and the same thing, and that with the expulsion his efforts after purity may be securely relaxed. Bad weeds grow apace, and a single diseased sheep may taint a flock of thousands. In the next place, the expelled boy or boys may be, in reality, the cleverest in the school, and even, only for their indulgence in this accursed practice, the most promising. Thus the school may have in reality lost rather than gained by the expulsion—expulsion for the contracting of an evil habit of which, wretched boys, perhaps they never heard until they went to the very school from which they are now turned out as outcasts! Moreover, it was assuredly to heal those that were sick—a fact apparently forgotten by these expelling schoolmasters—to call sinners to repentance, that Jesus came. What right, then, has a schoolmaster to attempt to wash his hands of the anxiety and trouble inseparable from his profession, properly understood? What right has he to pretend to retain as pupils in his school those boys only who in his opinion—an opinion for which there is rarely any sure foundation—"need no repentance"? A boy once desired to speak to me privately in my study. In real tribulation he assured me that since he came to the school, some months previously, he had never committed the sin of which I spoke to him on his arrival, but that every night he had most disturbing dreams—a doctor can guess all the rest of his admissions—and that he felt very ill, and thought he had better come and tell me; and that he hoped I would not expel him. "Expel you, my poor boy!" I said, "No, God help you! You have already, surely, been visited with sufficiently severe punishment—the punishment that has naturally followed your sinful conduct. I will call in the school physician, and we will see what can be done to relieve your sore sufferings and trouble." The outcome of the interview, briefly, was this: after the lapse of some months, this boy, almost quite recovered from his alarming infirmity, was one of the best behaved and most generally popular boys in the school—thoroughly trustworthy, first-rate at games, attentive at class, and diligent during preparation hours.

It should be a great encouragement to the schoolmaster, who leaves no stone unturned to eradicate this vice from his school, to remember that it is not boys only whom he his safeguarding against mental and bodily pollution, but men also. And what a scourge to themselves and to others impure men are! The purer the boy the purer the man. Similarly, the more impure the boy the more impure the man. Habit is a second nature. The boy who unwarned, undetected, uncensured, has secretly practised this abominable vice for years and years together, and so stimulated, unnaturally, the lusts of his flesh, is just the person, when he becomes a man, to yield to every temptation to gratify these lusts; that is, assuming that he has not damaged beyond cure his virile powers by the self-abuse he indulged in as a boy. "What is the harm of sexual gratification?" the youth who has deadened his conscience by self-abuse at school is likely to ask himself: "I never was told it was either sinful or injurious all the time I was at school." The undisciplined, ill-trained youth thus begins life at an immense disadvantage, caused by the supineness and blindness of his schoolmaster, whose bounden duty it unquestionably was to have explained to him the sinful nature and destructive effects of this vice. The boy, on the other hand, who has been accustomed to keep his passions under due control, and enters life, whether the university or a bigger world still, with a sound mind in a sound body, innocent, yet properly instructed as to the unnaturalness, the sinfulness, and the pernicious consequences, slow but sure, of this deadly sin,

is likely, if anyone is, to keep his body, when he becomes a man, in temperance, soberness, and chastity unto his life's end.

Cluain Fóis, Buncrana.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Sunderland Urban District.—Sunderland has a notoriety for enteric fever, and it is to this subject that Dr. Harold Scurfield devotes considerable space in his annual report. During 1896 there were but two of the thirty-three great towns that had a higher death-rate from enteric fever than had Sunderland. Wolverhampton heads the list with a death-rate of 0·41 per 1000. Bolton follows with a rate of 0·39, and Sunderland with one of 0·37. In, too, the matter of diarrhœa Sunderland is in bad company, but its rate in this respect is exceeded by Wolverhampton, Leicester, Salford, Birmingham, Liverpool, Preston, Bolton, Sheffield, and Hull. It appears that the excessive incidence of enteric fever in Sunderland began to manifest itself about 1889, and after a sudden drop in the wet cold summer of 1894 it reached the highest rate yet recorded in 1895, but in this year it has to be noted that a considerable amount of the increase was due to a milk epidemic. Dr. Scurfield finds that, taking the average rates for diarrhœa and enteric fever since the year 1888, the greatest number of deaths from the former disease occur in the thirty-fourth week of the year, while for enteric fever the maximum figure is reached in the thirty-sixth week; and in a very interesting special report which he has presented to the sanitary authority of his district Dr. Scurfield shows that during 1890–95 enteric fever was more prevalent in towns in which privy-middens largely obtained than in towns where the excrement was removed by means of water carriage, and on examining the figures for 1896 he finds that the same rule holds good. "Privy-midden towns" are regarded as those in which the number of privy-middens approximates or exceeds 5 per cent. of the population. Dr. Scurfield observes that the bacillus of enteric fever, being capable of resisting frost, can, when thrown on to a privy, live in the soil throughout the winter, and propagate itself when the ground gets hot in the ensuing summer, and he furnishes in his report instances where probably this phenomenon has occurred and where certain houses and even streets have become again and again invaded by enteric fever. Although the privies are nominally disinfected it is obvious, as Dr. Scurfield observes, that the chances of really destroying all the infection which may lie in the surrounding soil are remote in the extreme. To sum up, Dr. Scurfield urges that the privies are largely responsible for the enteric fever of Sunderland for the following reasons: *Negatively*, there is no reason to suspect the water-supply, the milk supply (save for a certain period of 1895), or the sewers as cause. *Positively*, it is found that enteric fever is more prevalent in privy-midden towns than in water-closet towns, and in towns where both systems of excrement disposal are in use the chief incidence of enteric fever is found in the houses and districts provided with privy-middens. Furthermore, certain houses and streets in Sunderland where the privy-midden system is in vogue have been frequently re-invaded by the disease. It is interesting to note in reference to the relation of prevalence and type of enteric fever in Sunderland that during 1895 there were 840 cases, with a fatality rate of 15·4 per cent., while in 1896 the 260 cases yielded a fatality rate of 20·8 per cent. As a sort of sequel to Dr. Scurfield's interesting report he and the borough engineer have made an estimate of the saving to the cleansing department of the borough which will accrue from the general adoption of the water-carriage system in Sunderland.

St. Helens Urban District.—Dr. John Robertson has recently made some very interesting and instructive observations upon the behaviour of enteric fever, and a notice of them may appropriately follow that of Dr. Scurfield's report, which we have just considered. As in the case of Sunderland, the notifications of enteric fever in St. Helens during 1896 were relatively small, while the deaths were relatively large in number. Dr. Robertson has calculated from the weekly returns from certain large towns which are sent to the Local Government Board the sickness rates from enteric fever per 1000 of the population in the thirty-one towns in question. It seems that in the matter of sickness incidence St. Helens, with a rate of no less than 2·07 per 1000, easily takes the lead, the next highest being Sheffield, with one of 1·81 per 1000. The lowest rate is that of Plymouth, 0·31 per 1000. As regards the seasonal prevalence of the disease at St. Helens a chart is given in the report before us which shows the weekly number of cases in relation to the temperature of the soil at a depth of four feet and of the air. Dr. Robertson has now furnished these charts in his reports for some years, and they show a distinct relationship in point of time between the prevalence of enteric fever and the temperature of the earth at a depth of four feet. Allowing a period of three weeks as a reasonable average time between the ingestion of the poison and the notification of the disease, it is found that from 1892 to 1896 inclusive enteric fever became prevalent in St. Helens three weeks after the soil temperature at four feet had risen to 52° F. Conversely, three weeks after the soil temperature fell below 52° a rapid diminution of cases took place. The experiments to which we have already referred were as follows, and their object was to ascertain if the soil of St. Helens offered a suitable nidus for the growth of the enteric fever bacillus. In order to ascertain this point three patches of soil—apparently *in situ*—were liberally sown with a diluted broth culture of enteric fever organisms, and later three other patches were similarly sown. The organisms grew and flourished during June, July, and August, while the weather was dry and there was abundant sunshine. Similarly during September and October, when the weather was wet and dull, the organisms were still plentiful. In addition to these experiments other patches of soil were sown at a depth of from nine to eighteen inches below the surface, and, what is a most interesting and instructive point, it was found that in every instance the organism had grown to the surface within two months. Again, another most suggestive point, it was found that in the case of all the samples by Nov. 20th the organisms could no longer be detected in the specimens of soil in which they were sown. As Dr. Robertson points out, it is by no means improbable that during the summer (the present time), when the temperature of the soil is favourable to the growth of the organism, its presence will again be discovered, and thus there may be furnished an object lesson of the manner in which enteric fever may disappear from a locality in the winter and re-appear with the heat of the following summer; in a word, Dr. Robertson considers that the soil pollution of St. Helens is a most potent cause of enteric fever in that place, and he furnishes statistics in support of that view. Dr. Robertson has also made some investigations to ascertain whether the degree of bacterial activity going on in the soil held any relation to the prevalence of enteric fever, and the amount of carbonic acid was taken as a measure of such activity. These observations are being extended, as also, it seems, are others in connexion with the height of the ground water in relation to the prevalence of enteric fever. The value of the serum diagnosis of enteric fever is spoken of very highly by Dr. Robertson, and he furnishes many instances in his report where this test cleared up existing doubts. The blood of forty-six persons was examined, and the conclusions are set forth in five groups. Group 1. Blood from persons in good health, who had never suffered from enteric fever. Results negative in every case. Group 2. Persons in good health, but who had, one to thirteen years previously, suffered from enteric fever. All of these—with the exception of one man who had gone through a typical attack of the disease a year previously—gave a definite reaction. Group 3. Patients suffering from diseases which were definitely not enteric fever. All save one case gave negative results; and this case, although the first test gave a positive result, subsequently yielded negative results, so that Dr. Robertson thinks there may have been an error in the test. Group 4. Patients suffering from undoubted attacks of typhoid fever. Nine cases were examined, and in each one a well-marked reaction was obtained. Group 5. This was the most important group, as it contained all the doubtful cases. Of 21 cases 10 gave a positive and 11 a negative result, and in each of the negative cases the result was proved correct by the subsequent history.

Durham County District.—Dr. Eustace Hill finds that in the annual reports of the district medical officers of health proper corrections are not always made in respect to the

inhabitants of the district who die outside the district, although it seems that, as a very general rule, "foreigners" who die within the district are rigorously excluded. The general death-rate of the county during 1896 was 17·5 per 1000, the rate for the six boroughs being 16 3 per 1000, and for the other urban districts 18·4 per 1000. Dr. Hill attributes the lower borough rates to better sanitary administration, and it is a noteworthy fact that the enteric fever death-rate in the non-county boroughs was materially below those of the other districts in the county. In deploring the absence of uniformity in the matter of notification of disease Dr. Hill observes that the cost of administering the Notification Act can hardly be adduced as a reasonable excuse for its non-adoption, seeing that the cost in the administrative county during 1896 was but £1 3*s*. 6*d*. per 1000 of population. There was a marked decrease in the prevalence of enteric fever throughout the county during 1896, but there was a slight increase in the fatality rate. The largest number of cases was notified during August, while in former years the maximum has occurred in September or October. At Jarrow and Houghton-le-Spring certain cases of enteric fever were regarded by the district medical officer of health as having possibly been caused by shell-fish. Dr. Hill thinks that little good results under existing circumstances from the notifications of puerperal fever, since no supervision seems to be exercised by the officers of the local authority in the county. Surely some preventive measures should be taken in cases of this kind. As regards isolation, there are still nine urban and six rural districts which are as yet unprovided with isolation hospital accommodation. There are several schemes in hand for the improvement of the water-supply of the county, and the Local Government Board has refused to sanction the application of the Bishop Auckland Urban District Council to borrow money for taking water from the River Wear after it has received the unfiltered sewage of a population numbering several thousands. The Durham County Council opposed the application, and it is clearly a matter for congratulation that they were successful. The condition of the River Tees above the Darlington intake has, we are glad to hear, been considerably improved, much of the sewage of Barnard Castle having been diverted, and schemes are in progress for still further reducing the pollution of the river from the Durham side. The Yorkshire villages are, however, it seems, still contributing their sewage. The County Council took action in certain instances last year, under the Housing of the Working Classes Act, in cases where the local authority had neglected its duty. Dr. Hill again insists that the excessive prevalence of enteric fever and diarrhœa in the county is in large part due to the pollution of the subsoil around dwellings by the percolation from privy-middens. If, he points out, the model by-laws of the Local Government Board were adopted and enforced throughout the country the objectionable ashpit privies could no longer be erected.

Cheshire County District.—The population of the administrative county is estimated for 1896 at 536,644. The birth-rate of the population was 28·5 per 1000, the rates ranging from over 38 per 1000 to 14·8 per 1000. The general death-rate of the district was 15·6 per 1000, the rates ranging from 23·4 to 8·2 per 1000. The infantile mortality in the district was markedly lower than in 1896, but in one district—that of Mottram urban—the rate was no less than 265 per 1000 births—a rate for which the district medical officer is apparently unable to account. Mr. Vacher, in dealing with the subject of stillborn children, points out that stillbirths are not officially recognised, and that it is open to any one to bring the body to the sexton, together with a certificate from the midwife or nurse, and to have the body thereupon interred. It is desirable, Mr. Vacher insists, that every birth, stillborn or otherwise, should be subject to compulsory registration. The zymotic death-rate in Cheshire during 1896 amounted to 1·6 per 1000, the rate for diphtheria and croup being 0·35 per 1000, and that for fever 0 15. It appears that there is very little provision made in the county for the bacteriological examination of suspicious cases, and many of the medical officers of health lament this fact in their reports. An instructive outbreak of enteric fever occurred at the County Asylum, Upton, and was traced to the agency of specifically polluted water infected through the admission of surface water past a ball valve, which had dropped down during a diminution of pressure in the mains. With regard to the progress of notification, it is interesting to read that at the beginning of 1897 there were but two districts, Congleton municipal borough and Nantwich rural district, which had not adopted the Act. Some progress has been made in isolation accommodation, but, as Mr. Vacher observes, such accommodation is still singularly inadequate to a population of 572,000. The County Council appear to have been most energetic in pressing the provisions of the Isolation Hospitals Act, 1893, but it has not been an easy matter to persuade the authorities to undertake the necessary expenditure. In some cases the local authorities seem to have preferred to proceed under the provisions of the Public Health Act, 1875, and in such cases the County Council were willing to subscribe towards the cost of erection and maintenance provided they had seats on the Joint Hospital Board. It was held, however, by the Local Government Board, to whom the question was submitted, that a county council could only contribute to such hospitals as were erected under the Isolation Hospitals Act.

Hackney Sanitary District.—Dr. King Warry reports that, in his opinion, the inability on the part of the Metropolitan Asylums Board to remove in the summer of 1896 all cases of scarlet fever concerning which application for admission was made resulted in a spread of the disease, and he insists in this connexion on the desirability of removing first cases. Dr. Warry furnishes the subjoined table showing the number of applications for removal to hospital which were made in certain cases:—

Number of applications	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Cases removed after above number of applications... ...	97	93	28	14	9	9	9	1	3	3	2	-	1	3	1

In the matter of diphtheria Dr. Warry furnishes very strong evidence for believing that one of the Board schools acted during 1896 as a centre for the propagation of diphtheria; and it is pointed out that, although it is not possible to connect each case with a preceding one, this fact does not destroy the thesis that the probable infection at school was the cause of the exceptional incidence on the children attending that school. The existence of mild unrecognised cases has, he rightly observes, been definitely established. As a means of diminishing the power of schools for harm in the propagation of diphtheria Dr. Warry advises that during the prevalence of the disease in a neighbourhood the schools shall frequently be examined by a medical man, and that any cases of sore throat shall at once be excluded from the school, a notification as to the exclusion being sent at once to the medical officer of health of the district. Analyses from the water of the River Lea show that its pollution continues, and Dr. Warry has no hesitation in stating that it is distinctly dangerous to the health of those who are exposed to its effluvia. The London County Council constructed a pool alongside the river, which is replenished by water percolating through from the river, and proposed, it seems, to encourage bathing by the erection of sheds for undressing, &c. Water was only to be admitted into the pool by percolation, or, if necessary, at times of high water or during the floods. Dr. Warry, however, strongly opposed the proposal, as he considers it highly dangerous for bathing to take place in such water as had been admitted at high tide or during periods of flood. Organisms of disease are, Dr. Warry thinks, plentiful in the Lea water, and he considers it "extraordinary that anyone should entertain the idea that water of less purity than that used for domestic purposes is good enough for bathing in." The project has since been abandoned. Dr. Warry reports that there is reasonable ground for suspicion that during the summer of 1896 certain cases of enteric fever were caused by the consumption of oysters.

Huddersfield Urban District.—Mr. E. G. Annis is to be congratulated upon his first annual report, and he has laid a capital foundation for the future study of the statistics of the district by constructing a Huddersfield Life Table. This table has not been altogether agreeable in its revelations to the people of Huddersfield, and it goes to show that there is much to be done in the district before the sanitary authority can congratulate themselves upon the expectation of life of the inhabitants. It seems that at birth the expectation is 12·79 years less than that of England and Wales as a whole, 10·13 years less than that of London, 3·72 years less than Glasgow, and 13·66 years less than Brighton; while, on the other hand, the expectation of Huddersfield is 1 90 years greater than that of Manchester township; there does not

seem to be much difference in the relative rates at the different age periods. The recorded death-rate of Huddersfield was 16·5 per 1000, a rate which places it in this particular below only four of the thirty-three great towns for the same period, but when regard is had to the corrected death-rate it is found that Huddersfield is as low down as fourteenth in the list of corrected death-rates.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6828 births and 5180 deaths were registered during the week ending August 28th. The annual rate of mortality in these towns, which had been 29·5 and 28·7 per 1000 in the two preceding weeks, further declined last week to 24·6. In London the rate was 20·4 per 1000, while it averaged 27·4 in the thirty-two provincial towns. The lowest death-rates in these towns were 14·4 in Huddersfield, 15·5 in Bristol, 17·2 in Swansea, and 18·5 in Bolton; the highest rates were 32·5 in Salford, 34·5 in Birmingham, 41·9 in Hull, and 47·6 in Preston. The 5180 deaths included 1783 which were referred to the principal zymotic diseases, against 2368 and 2319 in the two preceding weeks; of these, 1490 resulted from diarrhœa, 106 from measles, 71 from whooping cough, 45 from "fever" (principally enteric), 39 from diphtheria, and 32 from scarlet fever. The lowest death-rates from these diseases were recorded in Huddersfield, Swansea, Bristol, and Birkenhead; and the highest rates in Birmingham, Salford, Hull, and Preston. The greatest mortality from measles occurred in Birmingham, Oldham, Manchester, Blackburn, and Preston; from whooping-cough in Sunderland; from "fever" in Derby; and from diarrhœa in Wolverhampton, Birmingham, Leicester, Salford, Preston, and Hull. The mortality from scarlet fever showed no marked excess in any of the large towns. The 39 deaths from diphtheria included 28 in London. No fatal case of small-pox was registered last week in any of the thirty-three large towns; and no cases of this disease were under treatment during the week in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 3448, against 3239, 3341, and 3400 on the three preceding Saturdays; 356 new cases were admitted during the week, against 376, 347, and 340 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 118 and 119 in the two preceding weeks, declined again last week to 102, and were 64 below the corrected average. The causes of 48, or 0·9 per cent, of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Leeds, Hull, and in twelve other smaller towns; the largest proportions of uncertified deaths were registered in Norwich, Leicester, Birkenhead, and Burnley.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 19·0 and 21·6 per 1000 in the two preceding weeks, declined again to 19·6 during the week ending August 28th, and was 5·0 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 17·3 in Leith and 17·4 in Edinburgh to 23·7 in Greenock and 23·8 in Paisley. The 585 deaths in these towns included 96 which were referred to diarrhœa, 23 to whooping-cough, 8 to "fever," 7 to scarlet fever, 2 to measles, and 1 to diphtheria; in all, 137 deaths resulted from these principal zymotic diseases, against 156 and 187 in the two preceding weeks. These 137 deaths were equal to an annual rate of 4·6 per 1000, which was 3·9 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 113 and 147 in the two preceding weeks, declined to 96 last week, of which 50 occurred in Glasgow, 12 in Edinburgh, and 10 in Paisley. The 23 deaths from whooping-cough showed a slight further increase upon the numbers recorded in recent weeks, and included 12 in Glasgow, 5 in Dundee, and 3 in Greenock. The deaths referred to different forms of "fever," which had been 4 in each of the two preceding weeks, rose to 8 last week, of which five occurred in Glasgow. The fatal cases of scarlet fever, which had been 12 and 5 in the two preceding weeks, rose again to 7 last week, and included 4 in Edinburgh and 2 in Glasgow. The deaths from diseases of the respiratory organs in these towns, which had been 58 and 62 in the two preceding weeks, further rose to 77 last week, and exceeded by 10 the number in the corresponding period of last year. The causes of 29, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 26·5 and 24·3 per 1000 in the two preceding weeks, further declined to 23·0 during the week ending August 28th. During the past eight weeks of the current quarter the rate of mortality in the city has averaged 23·5 per 1000, the rate during the same period being 21·4 in London and 18·4 in Edinburgh. The 154 deaths registered in Dublin during the week under notice showed a decline of 9 from the number in the preceding week, and included 39 which were referred to the principal zymotic diseases, against 51 and 39 in the two preceding weeks; of these 32 resulted from diarrhœa, 3 from "fever," 2 from scarlet fever, 2 from diphtheria, and not one either from small-pox, measles, or whooping-cough. These 39 deaths were equal to an annual rate of 5·8 per 1000, the zymotic death-rate during the same period being 5·4 in London and 3·0 in Edinburgh. The fatal cases of diarrhœa, which had been 39 and 31 in the two preceding weeks, were 32 last week. The deaths referred to different forms of "fever," which had been 4 and 2 in the two preceding weeks, rose again to 3 last week. The 2 fatal cases of scarlet fever were within one of the number recorded in the preceding week; and the 2 deaths from diphtheria exceeded the number registered in any recent week. The 154 deaths in Dublin last week included 41 of infants under one year of age and 27 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from those recorded in the preceding week. Seven inquest cases and 3 deaths from violence were registered; and 47, or nearly a third, of the deaths occurred in public institutions. The causes of 5, or more than 3 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ARMY MEDICAL STAFF.

SURGEON CAPTAIN CROSS, 1st Life Guards, is selected for promotion into the Royal Horse Guards, vice Surgeon-Major Mitchell (retired). Surgeon-Lieutenant Waring assumes temporary Medical Charge of Women and Children, Aldershot. Brigade-Surgeon-Lieutenant-Colonel Macnamara departs for service in Malta and Surgeon-Major G. F. A. Smythe for service in Egypt. Surgeon-Captain Bray joins at Colchester for duty. Surgeon-Captain Hennessy is warned to be in readiness for service in India.

Brigade-Surgeon-Lieutenant-Colonel M. M. Gallwey is placed on retired pay. Surgeon-Lieutenant-Colonel Swayne to be Brigade-Surgeon-Lieutenant-Colonel, vice Gallwey.

INDIA AND THE INDIAN MEDICAL SERVICE.

The Queen has approved of the following admissions to Her Majesty's Indian Medical Service:—To be Surgeon-Lieutenants:—John George Patrick Murray, Samuel Anderson, Francis Hope Grant Hutchinson, James Leslie Majoribanks, Alexander Fenton, James Allen Dredge, and Robert Welland Knox. The Queen has approved of the retirement from the Service of the under-mentioned Officers:—*Bengal Establishment:* Brigade-Surgeon-Lieutenant-Colonel Charles John Walford Meadows, Surgeon-Lieutenant-Colonel Alfred Henry Williams, and Surgeon-Lieutenant-Colonel Augustus Edward Richard Stephens. *Madras Establishment:* Brigade-Surgeon-Lieutenant-Colonel Henry James Hazlett and Surgeon-Lieutenant-Colonel Stanley Locker Doble. *Bombay Establishment:* Brigade-Surgeon-Lieutenant-Colonel George Archibald Maconachie and Surgeon-Lieutenant-Colonel Saunders Barton Haliday.

NAVAL MEDICAL SERVICE.

The under-mentioned Surgeons have been promoted to the rank of Staff Surgeon in Her Majesty's Fleet:—William Edward Home, Richard Aubrey Fitch, Henry Bullen Beatty, William Spry, Percy Edmund Maitland, James Joseph Walsh, John Moore, Cyril James Mansfield, Robert Hickson, Herbert Parke Shuttleworth, John Lowney, and Octavius Stephens Fisher.

VOLUNTEER CORPS.

Royal Engineers: 1st Cheshire: William Lawton to be Surgeon-Lieutenant. 1st Lanarkshire: Surgeon-Major A. Mechan resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the corps on his retirement. *Rifle:* 1st Volunteer Battalion the King's Own (Royal Lancaster Regiment): Surgeon-Captain J. Murray to be Surgeon-Major, to resign his commission; also to be permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement. 3rd Volunteer Battalion the South Staffordshire Regiment: Surgeon-Lieutenant E. Morton from the 2nd Volunteer Battalion the Worcestershire Regiment, to be Surgeon-Lieutenant. 2nd Volunteer Battalion the Oxfordshire Light Infantry: Surgeon-Captain J. J. A. Raye resigns his commission.

VOLUNTEER INFANTRY BRIGADE.

Tyne and Tees Brigade: Surgeon-Lieutenant-Colonel A. Wilson, 2nd Volunteer Battalion the Northumberland Fusiliers, to be Brigade-Surgeon-Lieutenant-Colonel on being appointed Senior Medical Officer to the Brigade.

THE HEALTH OF THE ARMY IN INDIA.

We have frequently called attention to the fact that it is quite a mistake to suppose, and a libel on the Indian Government and the military authorities to assert, that nothing has been, or is being, done to improve the moral and social condition of the British soldier in India or to strengthen his powers of self-restraint and increase his self-respect. It is on account of the large and increasing prevalence of venereal disease in India, in spite of all that has been attempted in these directions, that most sensible people are agreed as to the necessity of having recourse to restrictive measures of a physical kind. Our army in India is a celibate army, composed of men of an age when the animal passions are strongest and the judgment weakest, and no one who regards human nature as it is and looks the facts fairly in the face can doubt that under such circumstances there must be a great deal of yielding to temptation where so dominating an instinct as the sexual instinct is concerned. But we altogether deny that those who hold that venereal disease should, in the interest of public health, be treated like any other contagious disease are neglectful of the application of moral measures and influences. By all means let those who believe in the adequacy of these measures to accomplish the end in view try them. It is somewhat pharasaical, however, for those who are happily married to inveigh against the sin of incontinence in the case of soldiers living in enforced celibacy. An article appeared in the *Times* of Aug. 24th last on the British soldier and habits of self restraint, in which all that has been done of late years for the soldier serving in India is set forth, especially in the directions recently reported upon by the Army Temperance Association and the Army Health Association. It is remarkable how much has been accomplished during the last quarter of a century.

Surgeon-Major Horace Henderson Pinching, who took part in the late Mission to Abyssinia, has been granted Her Majesty's authority to wear the Insignia of the Order of the Star of Ethiopia of the Second Class conferred upon him by the Emperor Menelik II.

STEAM MOTOR DUST WAGGONS.—The Urban District Council of Chiswick has just commenced the collection of dust and house refuse by motors, the first of two "steam tip waggons" ordered for the purpose having commenced to work last week. Mr. Ramsden, the surveyor to the district council, reports that a week's experience with one of the cars shows that they are very easily controlled and far more economical than horse labour. The steam waggon does the work of three ordinary carts, and Mr. Ramsden estimates that the council will save between £500 and £600 a year by the adoption of the new system.

Correspondence.

"Audi alteram partem."

BATTEY'S OPERATION.

To the Editors of THE LANCET.

SIRS,—Is Battey's operation a justifiable procedure to prevent the recurrence of pregnancy in the case of those who have been the subjects of severe dystocia from whatever cause arising; and if so, under what circumstances may the operation be permissible? This question has probably occupied the thoughts of many medical men at one time or another, but I have not seen any literature bearing on the subject, and I should be glad to hear of any such.

The patient whose case suggested this inquiry to me is thirty-four years of age, and was delivered of a male child on the morning of June 10th last. Her previous (and first) confinement took place eight years before, when she was in labour for more than three days. On that occasion there was continuous, and at times profuse, hæmorrhage for eight hours previous to the commencement of labour and it did not cease until the birth of the child; it was evidently due to separation of part of the placenta as the secundines were born with the child, a portion, however, remaining behind which did not come away until the fifth day. Delivery was effected by forceps and the perineum was badly torn. Stitches were inserted into the perineum on three occasions during the puerperium; in the first place immediately after the confinement, secondly on the fifth day, when the passage of the remainder of the placenta had torn open the wound, and thirdly on the seventh day, when the bowels acted and scybalous masses of fæces were passed through the vagina, the back stitches again giving way. Union did not take place, and for eleven months the patient had no control over the bowels, which were evacuated through the vagina, and she was in a pitiable state. At this time perineal repair was performed at the Chelsea Hospital for Women. It was remarked that the case was the worst rectal tear which had been operated on at the hospital. The result of the operation was distinctly good, inasmuch as only a small fistulous opening remained in the bowel through which the motions, when loose, occasionally passed to a slight extent into the vagina. She was told on her discharge, that the perineum would probably not bear the strain of another confinement.

At the next confinement, which happened last June, as already mentioned, she delayed sending for me, so that the child was actually born on my arrival, the first and second stages having been remarkably rapid. The perineal tear on this occasion, although extensive, did not actually involve the sphincter ani. Otherwise the labour was easy and normal. I stitched up the perineum and conducted the case in the usual way. Union has not, however, been complete. The present condition, four weeks after confinement, is, however, on the whole, very satisfactory. In front of the anus, which, as already mentioned, has not been involved, is a small sinus communicating with the vagina, being separated from the vaginal orifice by a fairly strong bridge of cicatricial tissue. The patient can get about with moderate comfort and expresses herself as feeling very different as compared with the state she was in after her previous confinement. The operation required on this occasion to repair the perineum will be a comparatively easy one. The patient assures me she cannot undergo the ordeal of another confinement which might reasonably be expected to occur under existing circumstances, and with the object of preventing this she has asked my opinion as to the advisability of undergoing an operation for removal of the ovaries.

This operation has a moral as well as a scientific aspect. It is a recognised procedure in various diseases of the uterus and adnexa as well as in certain neuroses such as hystero-epilepsy; but in a healthy woman in the prime of life is it justifiable to remove the ovaries because her confinements have been complicated by accidental hæmorrhage and severe perineal tear, even although there is a prospect of her future confinement or confinements being similarly complicated? I think that most medical men would be inclined to decide against the operation under circumstances such as this, and

this for the following reasons: (1) the second confinement was in every way more satisfactory than the first, as there was no excessive hæmorrhage and, apart from the perineal tear, which was much less extensive than on the previous occasion, the labour was easy and normal; (2) there is every probability that should the patient again become pregnant, her confinement will be easier than heretofore; (3) it may be possible to prevent any laceration of the perineum by inducing premature labour at a suitable time, when the child will be smaller than at term; and (4) perineal rupture is seldom a complication of labour which is fraught with actual danger to life. Apart from these considerations, the responsibilities and claims of married life cannot be overlooked; and however willing a husband may be to abstain from sexual intercourse with his wife, it is not right that such restrictions should be imposed upon him unless there be a very good cause for so doing. Another question which must arise is, can a married couple in the prime of life live together as happily after such an operation as before?

Finally, what are the guiding principles to be followed in deciding for or against the prevention of pregnancy by means of Battey's operation, providing always that the patient desires the operation and her husband, understanding the risk of the operation and its consequences, gives his consent in writing? In the event of removal of the ovaries being determined upon, ought the operation to be performed by the vaginal method or by abdominal section? The latter is usually chosen as being the more satisfactory and complete. It has been proved beyond doubt that the removal of diseased ovaries does not unsex a woman. Can the same be said for the removal of ovaries presumably healthy?

I am, Sirs, yours faithfully,
JAMES KENNETH WATSON, M.D., C.M. Edin.

Byfleet, Surrey, Aug. 21st, 1897.

"FIRST-AID TO SAILORS."

To the Editors of THE LANCET.

SIRS,—With the annotation on "First-aid to Sailors," which appeared in THE LANCET of Aug. 28th, those most deeply interested in spreading knowledge of the subject have every reason to be satisfied, excepting in respect of some comments towards the end, and these are evidently due to lack of full information. At the Ambulance Classes held under the auspices of this society the lecturers, being reminded of the circumstances that accidents to sailors do occur in places where it may be impossible to obtain qualified surgical assistance for weeks or months, extended their teaching of how to handle dislocations, fractures, hæmorrhage, burns, &c., beyond the limits of "First aid to the injured," into what they are pleased to call "Second-aid," giving practical demonstrations. Mr. C. Alan Palmer, to whom this society is much indebted for assistance during a long period, knew of this practice when writing as he did. Having seen and heard much of permanent deformity and intense suffering due to the absence of First-aid knowledge among sailors, being greatly interested in the question, and jealous of Mr. Palmer's credit, I hope to be excused for troubling you with this letter and that you will give insertion to it, or its cardinal points, in your next issue.

I am, Sirs, your obedient servant,
Aug. 21st, 1897. A. G. FROUD, Lieutenant R.N.R.

THE MALARIAL HAND.

To the Editors of THE LANCET.

SIRS,—It is well known that long residence in a malarial climate causes, in a large majority of cases, such changes in the colouring matter of the skin that, instead of "sunburn" a peculiar "putty-like" appearance is produced. With some this appearance disappears after a short residence at home, with others it is permanent. This "West-coast complexion" is so commonly recognised as to need no comment here. The peculiar phenomenon to which I wish to draw the attention of the profession is one which I have called "the malarial hand." I have noticed during my sojourn in the Niger Territories, among those Europeans who have resided on the Niger more than two years, a singular rose-pink colouration of the skin over the thenar and hypothenar eminences and also over the under surfaces of the last phalanges of both hands. This colouration comes on imperceptibly and increases gradually until the appearance is as if these surfaces had been dipped in red ink. I have not noticed it in persons of any particular complexion, but it seems to affect fair and dark alike, and it always appears simultaneously on both hands, never on one alone or on one before the other. It would be very interesting to hear if a similar manifestation exists in other malarial climates, and if so to what it has been ascribed. Personally I am not yet in a position to give an opinion on the subject, but would be very interested to hear that of *confrères* who have noticed the peculiarity.

I am, Sirs, your obedient servant,
EDWARD E. CRASTER,
Principal Medical Officer, Niger Territories, West Africa.
Aug. 10th, 1897.

DR. HOLME WIGGIN ON INFANTILE INTUSSUSCEPTION: A CORRECTION.

To the Editors of THE LANCET.

SIRS,—Permit me to correct a trifling inaccuracy in Dr. Holme Wiggin's interesting paper on Infantile Intussusception in THE LANCET of Aug. 28th. "Case 18" and "Case 19" refer to the same case and not to two separate cases. The mistake has evidently arisen from two abstracts having been made of the same case, one from a reference to my own name and another from a reference to that of Mr. Winter. The case was reported and figured by myself by permission of Mr. Winter, the honorary surgeon, under whose care the case was admitted to the Wolverhampton General Hospital.—I am, Sirs, yours faithfully,

EDWARD DEANESLY, M.D. Lond., F.R.C.S. Eng.,
Hon. Casualty Surgeon, Wolverhampton and Staffordshire General Hospital.
Wa'erloo-road, S., Wolverhampton.

IS "MEDICAL DEFENCE" DEROGATORY TO THE DIGNITY OF MEDICAL MEN?

To the Editors of THE LANCET.

SIRS,—To the competent observer of medical affairs this must necessarily appear to be the vital question of the day in the medical world, on the answer to which will turn the future and the destinies of the medical profession. For those who should take the lead in defence of medical rights and interests rely, in refusing to do so, almost solely on the assertion, or assumption, or insinuation that for them or for the bodies they represent to do so would involve some loss of dignity and prestige, some humiliation, some course of conduct or some motive less worthy than that pursuit of science which should, they contend, be the sole aspiration and motive of its devotees. The coarsest form assumed by this assertion is that medical defence is trades unionism. The more refined terms in which it is expressed are a deprecation of it in the particular case or cases—an assumption that it would be an unsatisfactory new departure for bodies that have been and should be devoted to science; sometimes an evasion, sometimes a more direct repudiation of such functions—with or without an audible deprecation of them; but whatever terms are used or course adopted, the reason, expressed or implied, is that regard for our common rights and material interests is beneath alike the magnanimous practitioner of a humane profession and the earnest student of science.

To quote the expressions of individuals would unduly restrict proper criticism. Classical illustrations may, however, be given. Such is the recent evasion by the Council of the Royal College of Surgeons of England of the applications made to it to employ its disciplinary powers in restricting the exploitation of its Members for the profit of the lay public in methods and under conditions opposed to the ethics of the profession. In this instance the application was evaded by an oracular reply: "Such an exercise of its powers would interfere with the legal rights of its Members." But this was the question to be considered, and it is not considered by the answer being assumed. The legal right to practise does not include or legalise conduct which the College on proper proceedings pronounces to be "disgraceful in a professional respect." The College would not hesitate to denounce direct touting and advertising or covering to be "disgraceful conduct in a professional respect." If there is no distinction between this and the indirect touting, advertising, and profit earning

for lay persons complained of, then these also are "disgraceful conduct in a professional respect." If there be a distinction it is not unreasonable to expect the College to define it in the interests both of the profession and the public, and not merely to postpone the evil day with complete indifference to the ill effect of existing conditions on "the study and practice of the art and science of surgery," which it is the function of the College and duty of the Council to "promote."

At the recent half-yearly meeting of the Fellows of the College this was the keynote of the occasion. "Admitting, for the sake of argument, that By-law 15 were binding on the Council, would it not be most deplorable for this great scientific institution to become identified with individual interests, however meritorious, and mixed up with actions at law?" That the most essential rights and privileges of its Members in "the study and practice of the art and science of surgery" might be involved in such actions was admitted, but was not regarded as rendering participation by the College in such actions for the defence of those rights less "deplorable"; and in this instance also the opposition offered depends entirely on the assumption that the defence of their rights and interests is derogatory to the dignity and unworthy the attention of men engaged in the pursuit of science and of an institution devoted to the advancement of science.

Even the Hunterian Oration has become the vehicle of the same views enunciated on the same assumption of axiomatic certainty. In other more or less widely distinct scenes and centres contempt for, and dislike of, what is called "medical defence" finds no less confident and influential expression. No one who has attentively watched the proceedings of the General Medical Council can have failed to perceive the dislike manifested to this subject, or the lofty air of superiority with which it is, whenever possible, relegated to a later day. At the last meeting, after a year's successful evasion by the exclusion and suppression of letters, the Council was brought to the consideration of its duties in maintaining inviolate the rights of registered practitioners under the Medical Acts. Any real and open debate of a subject so shocking to all sense of propriety was avoided by means of a motion of doubtful regularity that decided the point at issue without considering it, not ascertaining or even permitting expression of, the views of members upon the merits, but accepting as sufficient the *ipse dixit* of an irresponsible legal adviser. But it is encouraging that on this occasion the closure met with resistance. In the late extraordinary general meeting of the Metropolitan Counties Branch of the British Medical Association it may almost be said that the whole strength of the opposition to medical defence consisted either of the argument that the association is a scientific body, and that medical defence is unworthy of a great scientific institution, or of fears of difficulties and of dangers of becoming involved in discreditable cases—of dissatisfaction, dissension, and disunion—put forward with really remarkable effect upon the result of the meeting. A final instance may be given of no less importance than these, and perhaps even more convincing. The exclusion of the Members of the College from all share in the government of their great corporation is defended on the ground that the presence of Members of the College, or even of Fellows representing them, on the Council would mean the importation into the transactions of the Council of discussion and even of action relating to the rights and interests and affairs of the Members throughout the world; whilst a part of the same argument is that the College is a scientific body—a silent repudiation of its functions as our greatest professional guild. Therefore, before the opposition to medical defence on the part of the leaders of the medical profession can be overcome it is necessary to convince them that medical defence, properly understood, is not derogatory to the dignity of medical men; and that in the eyes of their professional brethren the assumption or assertion that it is derogatory is not merely a grave error, but a grave offence.

I am, Sirs, your obedient servant,
REGISTERED PRACTITIONER.

"GLYCERINATED CALF VACCINE LYMPH."

To the Editors of THE LANCET.

SIRS,—In the first leading article in THE LANCET of Aug. 28th it is said: "For the last six or seven years Dr. Monckton Copeman has paid special attention to the subject of glycerination of calf vaccine lymph; indeed, it may be gathered that he was one of the first, if not the first, to put this method into actual practice." When I was a student at the London Hospital between the years 1868 and 1872 there was a small-pox scare in London, and the staff thought it desirable that hospital patients who did not object should be vaccinated or re-vaccinated, and as the supply of lymph was short the "happy thought" of diluting the vaccine with glycerine was adopted, and, I believe, with great success.

I am, Sirs, yours truly,
AN OLD LONDON HOSPITAL HOUSE SURGEON.

Aug. 30th, 1897.

"HOSPITAL ABUSE."

To the Editors of THE LANCET.

SIRS,—I can congratulate you heartily on the two articles in which your Special Commissioner so ably and so truthfully sums up the situation in Birmingham. Some ten years ago I was resident officer in the General Hospital and in the Queen's Hospital and at the General Dispensary. My remembrance of the abuse of these charities (?) confirms your correspondent in every way. The worst abuse I found existed at the General Dispensary, especially after the committee weakly yielded to the clamour of the organised workmen and expunged the words "object of charity" from their tickets. Soon after my appointment to the General Dispensary I became aware of two glaring cases of abuse, which I confirmed by personal inquiry and reported to the committee, giving details of each case. My zeal was soon quenched by a letter informing me that such reports should proceed, if from anybody, from the secretary, and that *my* work was to attend to the people who brought tickets.

I am, Sirs, yours faithfully,
Aug. 30th, 1897. A GENERAL PRACTITIONER.

HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

XII.—BIRMINGHAM *(continued)*.[1]

The Eye Hospital.—The Ticket and Registration System.—The Lock Hospital and Commercialism.

AT the Eye Hospital various proposals have been made with a view to limiting the number of patients. It was suggested that only sixty, or at most a hundred, new patients should be seen in a day. But who would select these patients? If it were only the first-comers who were admitted this might mean the neglect of very urgent cases because they happened to come last. Also, it would be very hard to send back without advice those who had travelled perhaps forty or fifty miles to reach the Eye Hospital. What would be better is a method of registration and the appointment of inspectors to make inquiries at the patients' homes and verify the truth of the details given for registration. One of the visiting staff of the Eye Hospital told me that nearly every week one or more of his private patients would declare that it was foolish to pay fees when their friends went to the hospital and obtained the same advice for nothing. A patient from a neighbouring town who made about £10 a week was reproached for going to the Eye Hospital and he replied: "I know I can afford to pay, but I am not going to pay. Is it because I have been steady all my life and have saved money that I am to be punished for these virtues by being called upon to pay? If I had

[1] The previous articles on this subject were published in THE LANCET on the following dates: (1) Sept. 26th, 1896, Plymouth and Devonport; (2) Oct. 10th, 1896, Exeter; (2 *concluded*) Oct. 17th, 1896, Exeter; (3) Oct. 31st, 1896, St. Thomas's Hospital, London; (4) Nov. 14th, 1896, Liverpool; (4 *continued*) Nov. 21st, 1896, Liverpool; (4 *concluded*) Dec. 12th, 1896, Liverpool; (5) Jan. 2nd, 1897, Manchester; (5 *continued*) Jan. 9th, 1897, Manchester; (5 *concluded*) Jan. 23rd, 1897, Manchester; (6) Feb. 6th, 1897, Leeds; (6 *concluded*) Feb. 13th, 1897, Leeds; (7) April 17th, 1897, Coventry; (8) May 1st, 1897, The Royal London Ophthalmic Hospital; (9) May 8th, 1897, France, United Action and Legislative Action; (10) May 15th, 1897, Leicester; (11) June 5th, 1897, Nottingham; (12) July 31st, 1897, Birmingham; and (12 *continued*) Aug. 14th, 1897, Birmingham.

been thriftless and a drunkard I should have been a proper patient and admitted without question." Some little while ago my informant removed a cataract from a person of limited means and was paid a 12-guinea fee for the operation. This patient had a friend who also suffered from cataract. The friend had a pension of £150 a year and some £3000 to £4000 capitalised. This man went to the Eye Hospital, paid a shilling registration fee, and had his cataract removed. Afterwards he used to laugh at his friend, exclaiming, "How much did your eye cost you? Twelve guineas; mine only cost twelve pence."

Undoubtedly at the Eye Hospital tickets are given away too freely. People go there who have only a stye in the eye or a slight cold. These trivial cases, at least, might go to the general practitioners. But when the New Eye Hospital was built—and as a structure it is one of the best eye hospitals in England—the sale of tickets had to be forced up from £1500 to some £3000 a year. Many subscribers in the course of the year ask and pay for more tickets. This they often do very reluctantly; but there is such a demand for these tickets that subscribers are compelled to purchase many more tickets than they originally intended. There are business connexions, workmen and others, whom a subscriber is so often called upon to oblige, and whom he cannot very well refuse. It must be borne in mind that a man in business who is solicited for a ticket by a customer cannot very well ask his customer whether the person for whom the ticket is intended is a fit object of charity. A business man's first thought is to oblige his customer. By the side of this necessity the question of hospital abuse holds a very small place in his mind. All these circumstances enabled the managers of the Eye Hospital to save in four or five years enough to build a new wing that cost some £5000, and this without asking the public for a single penny. Any patient going to this hospital is seen for the first time, even if he has not a ticket, and if the case is urgent he will be seen again so long as the urgency continues; afterwards he must obtain a ticket if he wishes for further advice and medicine. This system works very well from the financial point of view. The subscriptions in 1883, before the new hospital was built and before any effort was made to force them up, amounted to £1361. When the ticket system was enforced the subscriptions rose in 1889 to £2409, in 1893 to £2800, and in 1894 to £3080. Though the ticket system favours much abuse, it is difficult to suggest its abolition in the face of these financial results.

In the eye department of the Queen's Hospital it was decided not to see more than twenty-five new cases in each of the two days devoted to diseases of the eye. This made fifty new cases per week, and as many as 150 new patients have applied in the course of a week. The last comers were not admitted, and it often happened that from twenty to thirty patients went away unrelieved. It also frequently occurs that ophthalmic surgeons receive in their private practice patients who have grown tired of waiting for their turn at the hospitals, and these patients from the hospitals have not only paid the guinea consultation fees, but they have also sometimes paid operation fees, and this at the ordinary rates. This fact in itself indicates the high-class character of many of the patients at the eye hospital. It also opens out the question as to whether what would constitute an abuse at a general hospital is to be considered an abuse at a special hospital. For a general hospital it may be urged that anyone who can pay a 2*s*. 6*d*. fee or who can subscribe to a provident dispensary has no right to go to the hospital. But the ophthalmic surgeon's fee is generally a guinea, and therefore it is urged in some quarters that all those patients who cannot pay guinea fees are entitled to go to the Eye Hospital; this it is that explains why a much better class of patients frequent such hospitals. At Birmingham there is also a much better class of patients at the Ear and Throat Hospital. Many of the patients have been in the habit of paying 5*s*. fees to their ordinary medical man, but cannot afford to give a guinea to the consultants who make this class of disease their speciality. Therefore, if, as sometimes occurs, the general practitioner fails to effect a cure such patients resort to the Ear and Throat Hospital. Here they gain admission either by ticket (and six tickets can be obtained for a guinea) or else by paying a registration fee of 3*s*. 6*d*. In-patients are only admitted by ticket unless it be an urgent case, and very poor patients are accepted free of any charge when especially recommended.

The payment of registration fees is not looked upon with favour by the majority of medical men. The sum charged is too large to cover the cost and trouble of registering the applicant's name, &c., and it is not sufficient to defray the cost of his treatment. Nevertheless, in its February, 1895, issue, *Forward*, the organ of the Hospital Saturday Fund, says in its leading article: "The registration fees are regarded by most of the patients at what are termed the free hospitals as payments for value received. The Queen's Hospital makes a charge of a shilling per patient; at the Women's Hospital the charge is half-a-crown, with a repetition of the payment every month if the patient continues in attendance. Similar charges are made at the Children's Hospital, the Skin and Lock Hospital, the Ear and Throat Infirmary, the Dental Hospitals, and others. The registration fees represent in the aggregate upwards of £4000 per annum. At the Queen's Hospital they amount to 39 per cent. of the total subscription list, at the Children's Hospital 36·5 per cent., at the Skin and Lock Hospital 209 per cent., at the Women's Hospital 200 per cent., at the Ear and Throat Hospital 81 per cent., and at the Dental Hospital 238 per cent." Thus it will be seen that the patients, in the main, think they are paying fully for all they receive; and, on the other hand, that in some of the hospitals they do by their registration fees cover more than two-thirds of their cost, since for £100 subscribed more than £200 are received in registration fees. This system dates back to the year 1870, when the experiment of a free hospital was made at the Children's Hospital. As there was no restriction to the admission of patients the number of applicants soon became so great as to be absolutely unmanageable. It was then decided to charge a sixpenny registration fee, and this kept away the very trivial cases. In 1875 the Queen's Hospital followed this example by instituting a shilling registration fee, and other hospitals soon did the same.

Perhaps the strongest complaints in regard to registration fees are against the Skin and Lock Hospital. Not only does this hospital advertise and charge a very high registration fee, but there are baths for which a charge is also made. Finally, and to ensure a plentiful supply of patients who are practically paying patients, the consulting hours are in the evening. Thus a workman who has contracted a venereal disease can, without inconvenience to himself, be treated after his working hours. It is a good thing, not only for the patient, but more particularly for the public at large, that all those who suffer from a contagious disease should have every opportunity of getting cured so that they should not spread the complaint to other and more innocent persons. Still, it does seem peculiar that there should be greater facilities for the cure of shameful diseases than for ordinary complaints. If the visiting staff of a hospital for venereal disease may be consulted at the hospital in the evening and after the day's work, why should not the visiting staff of all the hospitals be at the disposal of the public after other than the wage-earning hours of the day? It seems odd that those who suffer from venereal disease should be especially privileged, and under such circumstances it is not surprising that the Lock Hospital should be denounced as an institution run on a commercial basis. This permeation of commercialism in hospital management is in part the fault of the medical men themselves, for they do not attend with sufficient assiduity the meetings of the management committee, and then the lay members of these committees, who are for the most part commercial men, naturally introduce non-professional ideas and policy. The decision of the committee of the Lock Hospital that the honorary surgeons should receive patients at the hospital in the evening certainly shows a tendency to truckle to the working-class population—a tendency which, however, is not based on any abstract principle, but is due rather to the fact that of late the working class has become one of the chief paymasters. This, indeed, is what I have been made to feel throughout the whole inquiry, and every question asked seems to have been echoed by the other question: "Yes; but there is the Hospital Saturday Fund, and what will the workmen say?" Three out of every four workmen in Birmingham subscribe to the Hospital Saturday Fund, and they raise so large a sum that they hold the medical charities of Birmingham in their grip. There is hardly a hospital in the town which would not be bankrupt to-morrow if the workmen withdrew their support. This is a state of affairs pregnant with so many threatening contingencies that it must be studied carefully.

(To be continued.)

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Munificent Gifts to Newcastle Charities.

MR. HILTON PHILIPSON, a well-known solicitor and coal owner, son of the late Mr. Ralph Park Philipson, who was for many years the town clerk of Newcastle, has given the sum of £2000 to the Home for Destitute Crippled Children. This most valuable institution, for which the town is mainly indebted to Mr. W. T. Sanderson, is destined to do an immense amount of good in the neighbourhood. A new home at Gosforth is just ready for occupation, but it still has a debt of £1500 upon it.—Mr. John Hall, a wealthy ship-owner in Newcastle, has offered to build and equip at his own expense a new infirmary, provided that the building be erected upon another site and that the sum of £100,000, already raised by the ex-Mayor of Newcastle, Mr. Riley Lord, for the purpose of building a new infirmary on the present site, be transferred to the sustentation fund. Hitherto the infirmary authorities have utterly failed in getting from the town council another site or even an augmentation of the present one. The town council is the only source from which an eligible site can be obtained, and it is to be hoped that this generous offer of one of Newcastle's most prominent philanthropists will induce the council to reconsider its refusal to grant a site. Mr. John Hall's name will go down to posterity as one of Newcastle's greatest benefactors should it be found possible to profit by his noble offer.

The Policeman's Baton.

An inquest has just been held upon the body of a pitman, who died in the Royal Infirmary, Newcastle-upon-Tyne, from fracture of the skull the result of a blow from a policeman's baton. A verdict of manslaughter has been returned, and in due time it will have to be explained how the deceased's head got in the way of the baton. In the meantime the case is another illustration of the danger of striking a man on the head with such a weapon as the policeman's truncheon.

Home for Aged Miners.

On Saturday last, at Barmoor, a few miles from Newcastle-upon-Tyne, the foundation-stone of a home for aged miners was laid by Mrs. J. B. Simpson upon ground given by the Stella Coal Company. The home is to consist of eight one-storey and two two-storey cottages, and it will be erected at the sole expense of Mr. J. B Simpson, a local coal-owner, as a memorial of his late father. The institution will be known as the "Robert Simpson Memorial Homes for Aged Miners." The relations between capital and labour in this district ought certainly to be most amicable, and if the large sums of money which are so constantly being given for charitable purposes be any indication they must be so, notwithstanding the ill advised strikes which do so much to cripple the best friends of the employed—the capitalists.

A Sign of the Times.

Miss Norah Kemp, M.B., C.M., has entered upon her duties as *locum tenens* for the assistant medical officer at the Northumberland County Lunatic Asylum at Morpeth.

Aug. 31st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

The Aboyne Hospital Site Question.

THE Local Government Board has declined to interfere as to the proposal to change the site of the fever hospital now being erected at Aboyne, Aberdeenshire, on the ground that no guarantee has been given for the extra cost (upwards of £2000) involved. The Marquis of Huntly, however, has addressed a representation to the Local Government Board in favour of a new site, but as the roof is now on the buildings in progress his objection will probably end in nothing practical. Lord Huntly contends that the demands of the county medical officer are extravagant, and that the cost of removal to another site need not have exceeded £1000, the sum guaranteed by Sir W. C. Brooks, Bart., of Glen Tana.

Aug. 31st.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The Local Government Board and the Mitchelstown Union.

SOME months ago the board of guardians of Mitchelstown Union appointed a Mr Lagherty, clerk of the works, in connexion with the erection of a dispensary residence for the medical officer at Galbally at a remuneration of £1 per cent. on the necessary outlay. The guardians subsequently brought an action against him to recover £500 for negligence and non-fulfilment of his contract. This not alone failed but resulted in the former being condemned to pay the defendant's costs—viz., £60. During the trial it moreover transpired that the defendant at the time of his appointment was eighty-three years of age and was by trade a carpenter. The Local Government Board have now notified their intention to seize the workhouse in consequence of the action of the guardians, chiefly in reference to their non-payment of this bill of costs; and the position of the union is rendered critical by the fact that the guardians have been already surcharged by the auditor of the Local Government Board to the amount of £123, while further heavy surcharges in connexion with the dispensary house are pending. At a specially convened meeting of the guardians held on Aug. 28th, a resolution was passed requesting the Local Government Board to permit a cheque to be passed for the amount of the bill of costs irrespectively of other matters in dispute. There seems to have been some grave irregularity in the procedure adopted by this board of guardians recently, and as a consequence the completion of the much required dispensary residence at Galbally is likely to be long delayed.

Aug. 31st.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Moscow Congress.

MOST of the learned societies are taking a holiday, and the two which continue to sit—namely, the Academy of Medicine and the Academy of Sciences—have received no communication of importance, all the interesting papers having been reserved by their writers for the Moscow Congress. The daily press is full of matter about this meeting. As a rule the French members of the Congress express great regret at the insufficient organisation in France preparatory to the Congress. Relatively few members have attended from France, especially among the prominent medical men attending the Congress, and it is certain that the Germans, being nearer the scene of the Congress, have attended in greater numbers. It is especially to be regretted that military medicine had only one French representative and nearly a hundred German. The excessive cost of the journey, due mainly to the fact that Germany refused any reductions to foreigners going to Russia, is partly accountable for the scarcity of French members.

Holothyrus Coccinella.

M. Mégnin recently showed before the Academy of Medicine a parasite of a fairly large size which had been sent to him from the Mauritius by Dr. Charmoy for the determination of its zoological position. It is the Holothyrus coccinella of Gervais. Its popular name is "Trouille canard," and poultry farmers know its noxious properties so well that they have given up breeding birds in those elevated and damp regions of the island where this parasite abounds, lying hidden during the day under the moss and stones. Even children have often fallen victims when, having found a "trouille canard," they have put their fingers in their mouths after having touched it, for the tongue and pharynx become affected with an exceedingly painful swelling, so that they are in danger of asphyxia. With his last consignment of these parasites M. Mégnin tried some experiments to verify the existence of these unheard-of properties. If one is applied to the skin and kept there by a bandage a burning sensation is felt which after a time becomes very disagreeable, although the skin is only slightly œdematous and exhibits no change of colour. Upon mucous membranes the effect is very much more pronounced.

The Control of the Hospices in the South of France.

The General Council of the Bouches-du-Rhône have adopted a resolution for laicising the Hospices, which has been accepted by the Administrative Commission of the Hospitals, and the municipal council has made itself responsible for the sum of 45,000 francs, which will be the probable increase in the expenses caused by the suppression of the nuns. The prefect, considering that this sum will not be enough, has not yet approved the idea. M. Charles Roux voted against the proposal, not because he had any scruples as to the laicising, but because he considered the 45,000 francs would not be enough to provide for the new organisation, and before making any change it would be better to increase the number of beds, which are now so notoriously deficient that, as he says, every day more than twenty patients are refused admission at every hospital in Marseilles.

The Bacteriological Laboratory.

The total number of diagnoses made at the bacteriological laboratory of the Prefecture of the Seine during July, 1897, was 183. Of these 122 were diagnoses of doubtful sore-throats, and in 24 of them Löffler's bacillus was found, which brings the percentage of diphtheria observed during the month to 19·6. These figures are higher than those (namely, 18·1 per cent.) which obtained during the month of June, and the increase is entirely due to a short-lived rise in the number of cases of croup observed during the first fortnight of July. In the second fortnight of this month the number of cases of sore-throat underwent a marked diminution. Of the remaining cases sent up for diagnosis 47 had reference to suspected tuberculosis, and in 17 of them Koch's bacillus was discovered.

The late Dr. Jules Bernard Luys.

Dr. Jules Bernard Luys, the eminent alienist physician, Member of the Academy of Medicine and Officer of the Legion of Honour, has just died suddenly in his sixty-ninth year at Divonne-les-Bains (Ain), where he was passing the summer with his family. Born in Paris in 1828, resident medical officer at the hospital in 1853, and graduated as M.D. in 1857, Dr. Luys became in 1862 physician to the Salpêtrière and the lunatic asylum at Ivry (Seine). His researches were more particularly devoted to the study of the structure and disease of the cerebro-spinal nervous system, and his numberless writings have spread abroad his theories throughout the whole scientific world. He is credited with the discovery of two portions of the grey matter before undescribed, to which has been given the name of corpora Luysii. His best-known work, "The Brain and its Functions," was published in 1878. Dr. Luys was for a long time professor at the Salpêtrière, afterwards at the Charité, where he devoted himself specially to the study of the phenomena of hypnotism. To support his ideas on this subject he published two books, "On the Emotions in Hypnotics" and "Clinical Lectures on the Principal Phenomena of Hypnotism." Lately the scientific world followed with the deepest interest some curious experiments of Dr. Luys relative to radiography—that is to say, photography of the "effluves" of the human body, an account of which was given in my letter published in THE LANCET of June 12th, 1897 (p. 1641).

Aug. 31st.

ROME.

(FROM OUR OWN CORRESPONDENT.)

Typhoid Fever at Milan—a Warning.

FOR a month and more the Lombard capital has been a prey to typhoid fever, which may be said to be almost endemic within its walls. My last reference to the fact[1] indicated rather the wide diffusion than the intensity of the malady; now I learn on authority that, while its area is extending, the cases "assumono nella maggior parte forme piuttosto gravi" (assume for the most part rather grave features). Indeed, Milan, in city and suburb, is face to face with a very serious recrudescence of one of her generally latent, never absent, scourges, shown in the increasing typhoid fever admissions into her Ospedale Maggiore, whose many wards are all "piene zeppe" (full to bursting) with cases. At the city gates matters are not a bit better. At Sesto di Monza, for instance, there were on the 24th inst. more than 100 cases including those in hospital and those under treatment in their own homes; while further afield, in the country districts, the malady is as severe as it is widespread. These facts must give pause to the tourist world, which will soon be on the wing, and which, after a brief sojourn on the Alpine levels or at the lakes, is wont to use Milan as a halting-place before resuming its southward flight. If that great *entrepôt* of travel finds itself shunned this autumn, or, indeed, till it can honestly publish a clean bill of health, it will have only itself to thank. "Acqua inquinata" (polluted water) is the nursing mother of typhoid fever, and until the wealthiest of Italian cities has the public spirit to provide itself from the not too distant Alps with a pure and abundant supply of that necessary it must expect the stranger within its gates to be (as Americans say) "a stranger some more." Nestling in the Lombard plain, Milan has far too long, or far too exclusively, relied for her drinking-water on wells sunk in the subsoil, and it is high time that she should follow the example of her much poorer sister, Naples, whose Serena aqueduct is at once salutary to her health and creditable to her enterprise. Not that Naples makes the most of her advantages. Water otherwise excellent she allows to be contaminated with impurities from public baths or worse, and as a consequence I am told that in the Pizzofalcone barracks an epidemic of typhoid fever has broken out in the 10th Regiment of Bersaglieri, of whom over a hundred are now in hospital.

An Odyssey under Quarantine.

"Pazienza!" sighs the Italian where the Englishman clamours for "reform"; and certainly Italy acquiesces in abuses and grievances which in the British Isles would scarce survive a sitting of Parliament. Quarantine as enforced at Italian seaports is an instance in point, the latest victims to its formalities being four distinguished Italians themselves, with whom, as with most Englishmen, "time" is indeed "money." Professor Lustig, Dr. Malenchini, Dr. Galeotti, and Dr. Levi, all members of the Florentine Medical School, sent by the Di Rudini Government to Bombay, there to study the plague and the best means of preventing it, had returned, on the completion of their task, as passengers in the *Britannia*, which unfortunately had on board three Hindoo stokers or firemen all down with Asiatic cholera. On nearing Brindisi, the health conditions of the liner becoming known, "libera pratica" (free course) was denied it and the passengers were prevented from landing. Meanwhile, a party of Florentines had come all the way to welcome their returned kinsmen, but were told they could not approach the compromised vessel. In vain were protests raised by the passengers whose voyage terminated at Brindisi that at least they might be landed in Italian waters and accommodated for the statutory time at the not distant Lazzeretto Alberoni di Venezia. They were not only compelled to remain on board, but to pursue the ship's voyage to London. So in spite of themselves some fifty passengers, including the four Tuscan pathologists, had to test the virtues of "Pazienza" and go on to the British metropolis, thereby postponing the welcome and the business awaiting them in Italy from the third week of August to the first week of September. The Italian press is indignantly asking for what purpose marine sanitary stations like the Lazzeretto Alberoni di Venezia are maintained if, in circumstances like those referred to, they cannot be utilised. Well indeed it may. But Italians must be reminded that their own legislation is chiefly responsible for the enforcement of quarantine in the Mediterranean and that the English-speaking world for generations has had to sacrifice even more valuable time than theirs by the perpetuation of formalities at sea which should long ago have gone the way of "sanitary cordons" on land.

Dr. Maurizio Sacchi.

The fate of this young and gifted nature-student is still one of the dark problems of what (for Italy at least) I have called "the doubly Dark Continent." He was, it may be remembered, the surgeon and medical adviser of the ill-starred expedition under Captain Bottego and was believed to have escaped the massacre that befel all but two of his comrades by the accident of his having been sent, just before the catastrophe, on a special mission to the coast. Now it is surmised that on his return journey, presumably to rejoin the main body whose destruction was unknown to him, he himself was murdered. Doubt, however, has

[1] THE LANCET, Aug. 7th, 1897.

been thrown on this conjecture — for it is imperfectly supported by facts—and now I hear that from his native Mantua a traveller has offered to go in quest of him if alive, or of his remains or of details concerning him if dead. This volunteer is no other than the intrepid African explorer, Signor Emilio Dal Seno, who in July, 1893, was rescued from a savage prison in Lugh by poor Captain Bottego in person. The Società Geografica Italiana is deeply interested in this quest, for it is known that Dr. Sacchi had amassed much novel and valuable information (including specimens of the flora and fauna), not only in the natural history, but in the geographical and meteorological features of the country between Lake Rodolfo and the seaboard.

Aug. 28th.

MONTREAL.

(FROM OUR OWN CORRESPONDENT.)

The Royal Victoria Hospital.

THE third annual report of this hospital has just been issued. It is an interesting pamphlet of ninety pages, and gives more information than is usually furnished in annual reports. It gives a brief epitome of the more important cases observed and treated. This splendid institution, founded and endowed by Lord Mount-Stephen and Lord Strathcona and Mount Royal of Glencoe, has an income from capital of £11,000, but this is not sufficient, as the expenditure for the last year was £16,000. With an average of 167 beds occupied daily, the expense represents 5*s.* 9*d.* per patient per day. Of the 2016 patients treated 50 per cent. were Protestants, 44 per cent. Roman Catholics, and 6 per cent. of other faiths. Of the adults there were 912 males and 908 females; and the children under twelve years of age numbered 196. The total mortality was 5 per cent., a not unusual rate for a general hospital. Bathing is favoured for typhoid fever. Of 68 cases of typhoid fever 47 were given baths; the number of baths varied from 1 to 79, and averaged 23. All the patients recovered. In 78 per cent. there was manifest eruption, and in 66 per cent. the spleen was palpable. The febrile period existed from three days to eighty-four days, the average being twenty-four days. Diarrhœa was present in 8 per cent. of the cases and constipation in 91 per cent. Baths were given every three hours when the temperature remained over 102° F. The patient was immersed in water at 90°, and the water was rapidly cooled to 80°. Later, colder water was used, down to 65° in some cases. On the surgical side there were 77 cases of appendicitis with 5 deaths. Appendectomy was performed 58 times, but the mortality is not given. In the gynæcological department there were 53 coeliotomies, with 1 death. The one death occurred in a case of abdominal hysterectomy. 8 other cases of abdominal hysterectomy and 11 vaginal were successful. Ventro-fixation of the uterus was done 28 times, with 27 recoveries and no deaths. In the eye, ear, nose, and throat department there were 176 patients, with 1 death, and this one died from diabetes. In the pathological report a case of septicæmia is noted, with bacillus aërogenes capsulatus and emphysema of the spleen.

Variola.

The city has been free from small-pox since the great epidemic of 1885-86. In July of this year a case developed, but the source could not be traced; since then 13 cases, with 4 deaths, have occurred; in the west-end suburb of Westmount 4 cases occurred, with 1 death. The health authorities have been stirred to great activity by the outbreak, and as but one infected house now remains under supervision, it is hoped that the worst is over. The difficulty, arising from divided control of the Civic Infectious Diseases Hospital referred to in a former communication has been surmounted by giving the entire control of the institution to the medical health officer, Dr. Laberge. The building itself is in very bad condition, but hurried repairs have been made in the portion set apart for small-pox cases. Free vaccination is performed at numerous stations throughout the city.

Lord Lister.

The visit of Lord Lister to Canada to attend the meetings of the British Association for the Advance of Science has been taken advantage of by the medical profession to do honour to one so eminent in medicine and in science. The Medico-Chirurgical Society of Montreal will entertain his lordship at dinner at the Windsor Hotel on Aug. 31st, when a congratulatory address will be presented to him, referring to his elevation to the peerage. It was intended to make the presentation some time ago, before it was known that he would be in Montreal. Lord Lister will remain in the city throughout the meeting of the British Medical Association.

British Medical Association.

Among the men of science who came over for the Toronto meeting, there were a number of medical men who will also attend the British Medical Association's meeting in Montreal. An immense programme has been prepared for this latter; the scientific features and the entertainments would be, either of them, sufficient for two conventions. The hospitality offered consists of garden parties, receptions, concerts, dinners, golf, steamboat excursions, trolley rides, masonic meetings, chess, &c. An enthusiastic wheelman, Dr. Lapthorn Smith, will take a party whose lives are insured to the top of Mount Royal at seven o'clock in the morning of Sept. 1st, to descend by bicycles a two mile route by gravitation.

Jubilee Nurses Home.

The Victorian Order of Nurses' scheme is in abeyance at present, but the authorities of the Montreal General Hospital have succeeded so well with a project for the building of an establishment for the accommodation of nurses in training and nurses awaiting calls, that ground has been broken on a site convenient to the hospital, and Lord Lister has accepted the invitation to lay the corner stone. In the management of this enterprise, it is intended to supply a part of the remuneration of the nurses from a fund, as the usual charge of 3*s.* per day, is prohibitive to many families.

Chemistry Building.

The latest addition to the group of buildings in the McGill Park is the Chemistry Building; it is nearing completion and will be in occupation during the coming season, though not at the beginning. It is a benefaction from a wealthy manufacturer, Mr. W. C. Macdonald, whose numerous contributions to the university can only be described as princely. When Sir H. E Roscoe was visiting Montreal he said in a speech that the only thing needed to complete the splendid equipment of McGill University was a special building entirely devoted to chemistry. Mr. Macdonald said it would be supplied and would be of the very best description.

Aug. 21st.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Vital Statistics of New South Wales.

THE annual report of the Registrar-General on the vital statistics of New South Wales shows that in the metropolitan district the ratio of deaths per 1000 of the population has in ten years declined from 20·87 to 13·18. The decline has not been uniform, but since 1890 the variation has been no more than 3·30 per 1000. The decrease is not due to exemption from infectious disease, but is ascribed to the excellent water-supply and drainage system of the metropolis. Infantile mortality still remains high. In the metropolis it is higher than in the country, and higher in the suburbs than in the city itself. North Sydney, the fashionable suburb, has the lowest mortality from all causes.

Diphtheria in Sydney.

In my last communication reference was made to the prevalence of diphtheria in the neighbourhood of Melbourne, and from a report of the medical officer to the Sydney Water and Sewage Board it appears that this disease has been very prevalent in the sister metropolis also. During the present year 123 cases had been reported and investigated. There was no appreciable difference in the number of cases between the sewered and unsewered districts, and the idea of any connexion between the disease and sewers is discountenanced, and the cause is more probably to be sought in the imperfections of ordinary domestic sanitation. Many of the dwellings in which the disease made its appearance were very dirty and showed gross signs of individual neglect. Fowls were kept in small yards and allowed to remain about the houses. The aggregation of children in schools under faulty sanitary conditions is regarded by the medical officer and the Board as one of the most potent agencies in spreading the disease. The milk supplied to the various reported

cases came from all parts of the country, and it would be impossible to charge any particular supply with disseminating the disease. One of the reported cases, however, came from a milk shop, and the sale of milk was allowed to continue even after the existence of the disease had been established beyond all doubt. Great stress is laid on the necessity of a stricter supervision of the milk-supply.

Supervision of Milk Supply in New South Wales.

This subject has been receiving a good deal of attention from the health authorities in New South Wales lately, and has evoked a long correspondence in the Sydney press. The Richmond River district has recently risen into importance from the extent of its dairying industry, so that the Dairies Supervision Act has been administered in it only by local authorities. For a few months past the veterinary inspector of the Board of Health has been supervising the local authorities in their duties under the Act, and has had to require many alterations, involving outlay of money. This interference has been resented by the dairymen thus compelled to abandon their happy-go-lucky methods. The President of the Board of Health has insisted on the necessity for the adoption of the most rigid precautions by dairymen to ensure the purity of the milk-supply, and especially for inspection of the dairy herds by veterinarians to see that they are free from tuberculosis. In this view he has been supported by the leading medical practitioners in Sydney, though some statements as to the frequency of tubercle in children have been challenged. The press has also strongly advocated rigid inspection of all dairy herds, the general use of tuberculin as a diagnostic agent, and the destruction of all tuberculous and diseased animals, while the price of milk must be raised proportionately.

Presidential Address.

Dr. A. A. Lendon, the retiring President of the South Australian Branch of the British Medical Association, in his address, dealt more particularly with the subject of the federation of the different Australian medical societies. He advocated that the colonial branches should be grouped into a division of the British Medical Association, and that to this Australian division the Council should grant a greater degree of autonomy. A divisional or federal council should be established (in part elected by the branches, in part nominated by the Council) which should elect members of the Association in Australia, and have power to expel members and to create new branches. This Australian Council would be directly represented on the London Council, and the necessary funds would have to be provided for by a rebate on the subscriptions at present forwarded to London. Such an arrangement, in Dr. Lendon's opinion, would really strengthen the ties between the present Association and its numerous colonial offshoots and is perfectly feasible. There is, I am aware, a growing dissatisfaction among members in the colonies at the present arrangements, especially as regards unattached members and powers of expulsion of members, and the troubles in Adelaide over the hospital and the action of the London authorities with reference to Dr. Napier and Dr. Smith have served to accentuate this feeling in some measure. The question of the amalgamation of the various societies into one body was ventilated at the last meeting of the Inter-colonial Medical Congress, but did not seem to meet with much approval.

Dinner to Sir Thomas FitzGerald.

On July 22nd the medical profession in Victoria entertained Sir Thomas FitzGerald at dinner, in commemoration of the honour of knighthood recently conferred on him. The gathering was thoroughly representative and most enthusiastic. Dr. Neild, who presided, said it was the largest medical dinner, the most unanimous, and the most representative he had witnessed during an experience of over forty years in the colony. The honour conferred on the guest was exceptional, in that it was the first time in the Australian colonies an honour of the kind had been conferred on a medical man purely and solely on account of his professional eminence. Sir Thomas FitzGerald, by his scientific attainments and rare merit, had raised himself to such a position as to thoroughly deserve the dignity. He asked the company to drink Sir Thomas FitzGerald's health and long enjoyment of his title in a spirit of brotherhood, and the toast was drunk with the greatest possible enthusiasm. Sir Thomas FitzGerald, on rising to respond, received a tremendous ovation, the whole company rising, waving their handkerchiefs, and cheering vociferously. Speaking with considerable emotion Sir Thomas FitzGerald said he hardly knew how to express his feelings. He had always tried to do his best to advance the profession, and he could honestly say that he had never wittingly been guilty of a breach of professional etiquette. He wished to do all he could to elevate the profession, and for this reason he had accepted and welcomed the honour, not as a personal, individual compliment, but as an incentive to the profession, which was thus honoured through him as a member of it, and he trusted he would not shuffle off this mortal coil before he had the pleasure of seeing several of his friends similarly honoured. He then gave some reminiscences of his early struggles, and concluded by thanking the gathering for the very great compliment they had paid to him. The staff of the Melbourne Hospital then presented him with a handsome illuminated address worded as follows :—

"Sir Thomas Naghten FitzGerald, Knight, F.R.C.S.I., Surgeon to the Melbourne Hospital; President of the Inter-colonial Medical Congress, 1889.

"DEAR SIR THOMAS,—Upon the auspicious occasion of your knighthood at the hands of Her Most Gracious Majesty the Queen in connexion with the sixtieth anniversary of her glorious reign, we, your colleagues on the staff of the Melbourne Hospital, welcome the opportunity of offering you our warmest and most sincere congratulations. Your term of office amongst us is the longest in our annals. The fertility of your conception and the brilliancy of your operations have shed a lustre upon the institution which we all delight to serve, and directed as they have ever been by a high sense of professional honour they have won for you the esteem and affection of every member of the staff, the admiration and respect of successive generations of students, amongst whom more than half the present staff are proud to number themselves, and the veneration and confidence of innumerable hosts of patients. We thus look upon your official recognition, not only as a deserved, although long delayed, honour to the profession generally, but as conferred upon one of whom the practically unanimous verdict of his fellow practitioners throughout Australasia would have been given as 'of all the most worthy.'"

Sir Thomas FitzGerald, in replying, said he loved the hospital and he loved the staff, and he thanked them most sincerely. An address of congratulation was then presented from the Ballarat District Medical Society, and Mr. Gaffney conveyed the congratulations of the profession in Bendigo. During the evening songs were contributed by several members of the profession, and the proceedings closed with a vote of thanks to the chairman.

An Epidemic of Pemphigoid and Furuncular Skin Disease due to a hitherto undescribed Micrococcus.

At the last meeting of the Medical Society of Victoria Dr. James A. Reid contributed a paper in which he described a series of cases of skin affections characterised by bullæ, lymphatic inflammation, boils, and vesicles. In all the cases a definite micrococcus was found on bacteriological examination. It generally occurred as a diplococcus, liquefied gelatin, and was actively motile. It was aerobic and facultatively anaerobic, and pathogenic to man, mice, and guinea-pigs. Injections of pure cultures into mice and guinea-pigs caused abscesses the pus from which contained the same organism. Dr. Reid can find no previous description of a motile pathogenic micrococcus. Demonstrations were given of the organism in various culture media.

Death of Dr. Cutts.

The news, received by cablegram, of the death in London of Dr. William Henry Cutts came as a shock to his friends here. Dr. Cutts used to be a very prominent figure in the medical world of Melbourne, where he practised as a physician for many years and was very greatly respected. He came to the colony in 1852, and was shortly after appointed honorary physician to the Melbourne Hospital, a position he held for seventeen years. He was also for many years a member of the Council of the Melbourne University. He assisted in founding the Medical Society of Victoria and the *Australian Medical Journal*. Later he helped to found the Victorian Medical Benevolent Society and the Victorian Branch of the British Medical Association, of all of which he was at one time or another president.

July 24th.

Obituary.

CLAUDIUS FRANCIS DU PASQUIER, F.R.C.S. ENG., L.S.A. LOND.

CLAUDIUS FRANCIS DU PASQUIER was born in London on Nov. 23rd, 1811. His father was a native of Neufchatel,

He received his education at Mr. Pollard's, Blemill House, Brompton, and subsequently was bound at the Apothecaries' Hall and served his apprenticeship to Mr. John Nussey, of Cleveland-row, St. James's. In due time he became a Licentiate of the Society of Apothecaries and passed the examination for the Membership of the Royal College of Surgeons. He then had the appointment of assistant apothecary to St. George's Hospital, where he remained between two and three years, when he was admitted into partnership with Mr. Nussey. Mr. Du Pasquier was appointed surgeon-apothecary to Her Majesty in 1862, having already attended the late Prince Consort as apothecary. Later he became surgeon-apothecary to the Prince of Wales's household. After being in practice for forty years he retired from the profession and went to reside at Norwood.

An old friend, Mr. Edward Tegart, writes the accompanying lines:—"The late Mr. Du Pasquier deserves more than a mere formal notice because he was so excellent a representative of that class which socially is so important, the trusted family adviser. A gentleman in feeling and conduct, incapable of anything ungenerous or unhandsome, he was one in whom thorough confidence could be placed. With his sensitive disposition he shrank from seeking the prominent position which he might have taken, but those who knew him best valued him all the more. He had resources in himself besides his profession, and was especially fond of natural history pursuits and gardening. He had retired from practice many years before his death; indeed, his health required this. From his advanced age he has survived most of his old friends, and those who remain will think of him with affection and regard. I had known him intimately for so long that I deem it a duty to offer my tribute to his memory."

Mr. Du Pasquier died at his residence, Upper Norwood, on Aug. 20th, in his eighty-sixth year. He married the youngest daughter of Mr. John Bidwell, of the Foreign Office, who survives him. During the years he was in practice he lived at 62, Pall-mall, and was for some years on the court of the Society of Apothecaries, of which he was offered the mastership, an office he declined. He was always proud of having been a fellow-student of Sir Prescott Hewett, with whom he kept up a great friendship. During his later years he suffered frequently from attacks of eczema. He had been failing very much in health for the last year or two and had become very feeble during the last few months. A week before his death occurred he had to take to his bed owing to a slight gouty attack, from which he never rallied.

HENRY VINCENT GARMAN, M.R.C.S. ENG., L.S.A. LOND.

THE death of Mr. Henry Vincent Garman, at the age of seventy-three years, took place on Aug. 25th. Mr. Garman was one of the oldest and best-known practitioners in East London, having held, besides several other appointments, that of police surgeon at Bow for the very long period of forty-six years. He had not been in active practice for the last five years.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men have been announced:—Dr. Holmgren, Professor of Physiology in the University of Upsala, died suddenly from a cardiac affection on Aug. 14th. He was born in 1831, and worked for many years under Brücke, Du Bois Reymond, and Helmholtz. He was appointed to the chair of Physiology in 1864, and had the honour of establishing the first physiological institute in Sweden. He was chiefly known in this country from his researches on colour-blindness and his plan of testing the colour sense by means of wools:—Dr. T. Bogomoloff, Professor of Medical Chemistry in the University of Kharkoff, at the age of fifty-four years.—Dr. Franz Walser, *privat-docent* of surgical operations in the University of Gratz.—Professor Carl Liebmann, a well-known gynæcologist of Trieste.—Dr. Guardia, formerly Assistant Librarian of the Paris Academy of Medicine.—Dr. Gros, Professor of Clinical Medicine in the Algiers Medical School.—Dr. Enrique Moresco y Larado, Professor of Children's Diseases in the Cadiz Medical School.

THE TWELFTH INTERNATIONAL MEDICAL CONGRESS.

MOSCOW, AUG. 19TH—26TH.

THE Congress came to a formal conclusion on Friday, Aug. 27th, but many members had already left Moscow, being unprepared for the wave of tropical heat which spread over the city during the week. Indeed, so early as Monday, Aug. 23rd, but two clear working days after the opening of proceedings, as many as a thousand members returned to their homes, or started on one or other of the various excursions.

The crowding, however, did not visibly decrease, so very excessive has the number of members been in proportion to the accommodation provided by the resources of the city. It is doubtful whether the great crowd of 7000—and some put the total figure at nearly 9000—have been really and genuinely medical men. There was no scrutiny made of the demands to be enrolled as a member. The form had to be filled up and returned to the General Secretary with a guinea or its equivalent and the rest followed. Now to all dwellers upon or near the frontier who became enrolled the Congress presented an excellent opportunity for sight-seeing and a cheap holiday, for to them the free passes to and from Moscow meant a vacation free of travelling expenses. Consequently, there is no doubt that a large number of persons only indirectly connected with the medical profession availed themselves of the advantages going begging for one guinea, and have swelled the numbers of the Congress without a corresponding addition to the deliberative wisdom of the assemblies. To English and American people there has been no temptation to visit Moscow to make a cheap holiday, as the total distance to be travelled made the gift of a free ticket for the last 450 miles no very serious inducement.

The work in the sections was lightened by the tropical heat. Flesh and blood could not stand many long hours of confinement in crowded rooms, however large, with a thermometer persistently above 88° F. in the shade, and as a consequence the proceedings were got through with an expedition that was more due to absence of debate than to any great precision of arrangement. In some cases this was to be regretted, as many valuable and interesting communications, which might well have provoked comment, have fallen quite flat, and we must await the publication of the special records of the Congress for the rescue of these papers from oblivion.

The heat did not, however, deter the members from making the different excursions with vigour and determination. Of these there were several to choose from, as the officials had organised expeditions all over Russia, in Europe from St. Petersburg to Sebastopol, and from Nijni Novgorod to Odessa. But next to the Sparrow Hills, only a few miles away from Moscow, far the most popular excursion was the one to Nijni Novgorod, where the great fair was in full swing. The great fair is no longer what it was when Laurence Oliphant made us all long to see it. Then it was the great meeting-place of the producers of the coarse material coming from the east and the wholesale merchants coming from the west. Now the salesmen are the western shopmen who take to Nijni Novgorod the manufactured articles for sale into the more outlandish east. As a consequence the fair has lost much of its ethnological interest and all its picturesqueness. It is a very big and very dusty bazaar, full

of tin pans, bad *eikons*, and ugly American cloth. There are other articles on sale, but these and cheeses predominate.

Many of the English-speaking people in Moscow wondered at the absence of all attempt to organise an English-speaking bureau, where information might be obtained, and it was very generally felt that the English committee ought to have done something for the convenience of their brethren. It was comparatively easy work for any clear-headed man with a working knowledge of French or German to acquire a very good idea of the trend of the proceedings of the Congress. But every Englishman does not speak French or German, and every man away from his home is not as clear-headed as he is in his usual environment. To these a bureau, where during, say, one hour in the morning and one hour in the evening they could apply for ordinary information concerning *wagon lits*, passports, postage rates, excursions, &c., would have been of the greatest possible service, and we cannot understand why such a bureau was not organised. Sir William Mac Cormac was presented to the Czar as the representative of the English Committee, and there all the work of the committee stopped. Sir William Mac Cormac would have greatly obliged some of his humbler brethren if he had brought to bear his well-known powers of organisation for their convenience. In England the whole burden of organisation fell upon Mr. G. H. Makins, and, as everyone knows, he discharged his thankless task admirably. Some other members of the committee might have been found to continue the work in Moscow.

For Moscow is not like Rome, Berlin, Vienna, Paris, or St. Petersburg, where many people know a little English, and all have a smattering of some other tongue than their own. Moscow is Russian to the core, and only Russian is spoken, so that the need for a little help was felt by many of the English-speaking members, hardly one of whom knew six words of Slav. Moreover, all the official notices were freely printed in German and Russian and occasionally in French, but never in English. This was perhaps as well if the Russians were to depend on their own efforts and not to employ an English translator, as the following extract from a circular addressed in the official journal of the Congress to all members in their own tongue will show:—

"NOTIRE.

"In commemoration of the XIIth International Congress of Physicians in Moscow, there will be edited an elegant album of photographs of the Members of this Congress, with short biographical notices & facsimiles of each. This album is intended to be presented to the Imperial Protectors of the Congress—His Imperial Majesty, the Emperor Nicolas II and H. I. H. the Great Duke Serge Alexandrowitch.

"The album will contain besides photographs a wiew of the monument of Pirogoff, of the Moscow Clinics & the best views of the town.

"S take therefore the liberty of inviting yon dear zir, to favour me with your visit at my artistical installation to the effect of being graciously photographed, or to lit me kindly hane a portrait of yours whereof S could take a copy. Price of the album be Rs. 5. My adress is noted at the head of this. The installation is oper: the days of Congress from 8. o'clock in the morning untill the evening; all ather days from 10 to 5. in the afternoon."

In particular members would have been glad of information concerning the police formalities to be complied with before leaving the country, for the notices issued were contradictory in the extreme, members being told in one breath, firstly, that all passports must be *visé* at the *chef du police*, and secondly, that in the case of *Messieurs les Congressistes* such formalities were unnecessary. Detention on the frontier was a possibility which it was difficult for those who had made other and definite plans to contemplate with equanimity.

But if the English-speaking members were not helped by any committee, they were helped as far as possible by their thoroughly genial and kindly hosts. In every direction, and from top to bottom of society, the desire to make the twelfth Congress a pleasant recollection in the minds of its members has been obvious. And pleasant that recollection will be in most cases we are sure, for Moscow is above almost all cities in the world one whose panorama can be carried away in the eye—it is so simple and yet so gorgeous. And if any member in reverting in his mind to this Congress should be inclined to dwell upon delays at railway stations, hard and not altogether lonely beds, or extortionate drivers of *droschkys*, let him close his eyes and call up reminiscences of the quaint unnatural beauty of the Church of St. Basil, the lavish gleaming magnificence of the Cathedrals of the Annunciation, the Assumption, and the Archangel and the gilded cupolas of the bell tower of Ivan Véliki, seen against a background of azure sky, or green roof, or cobalt tower, or chocolate wall, then will he conclude that the little hardships were as nothing compared to the benefits that accrued to him during his sojourn in Holy Moscow.

THE SECOND GENERAL MEETING.

The second general meeting of the Congress was held in the Grand Opera House on Sunday, Aug. 10th (22nd), at two o'clock in the afternoon. The theatre, which is said to be capable of seating between three and four thousand people, appeared to be filled to its utmost capacity. The stage, as before, was occupied by the office-bearers, official delegates, and distinguished members of the Congress. Immediately preceding the general meeting a special meeting had been held, at which only the presidents of sections and presidents of national committees had been present, in order to discuss the question of the place of meeting of the next International Congress. At this smaller gathering, at which some eighty persons were present, invitations were received from the representatives of France and of Spain, and the choice lay between Paris and Madrid as the scene of the Thirteenth Congress. By a very large majority it was ultimately decided to accept the French invitation. The decision appeared to cause general satisfaction, as the next Congress will coincide with the great exhibition to be held in Paris in 1900, just as the first International Medical Congress coincided with the first Paris Exhibition of 1867. Professor LANNELONGUE (Paris) having been elected President of the next Congress, he was asked to take the chair at the second general meeting of the present Congress on Sunday last. The first address at this meeting was read by Professor KRAFFT-EBING (Vienna), whose subject was the Etiology of Progress in Paralysis. Professor Krafft-Ebing, who spoke in German, dwelt at some length upon the influence of contemporary social conditions on the human nervous system. Never before, he said, had so severe a demand been made upon the mental faculties as in the present century. Never before our own age, which might well be called the Nervous Age, had the brain been called upon to receive so many new, involuntary impressions. Social and political changes, the struggle for existence, increased facilities of travel and communication, and the competition inseparable from modern conditions of life, had all thrown a great strain upon the nervous system. The agriculturist had been driven to the town, where he lived under unhygienic conditions; the small tradesman and artisan had been crowded out by the large manufacturers. And this struggle for existence had told, not only on men, but to a considerable extent on women also. To these influences must also be added the growing use of alcohol, and the political changes which had substituted for the old patriarchal *régime* the government of the people by themselves. After a brief description of the symptoms of progressive paralysis the lecturer stated that the almost invariable cause of the disease was syphilis. Syphilis and progressive paralysis had both increased with the growth of civilisation, and it was a duty which Governments owed to their subjects to use every effort to combat the scourge. No age was exempt from the danger. The disease, which formerly attacked persons about the age of thirty-nine or forty years, now appeared in subjects at a much earlier

age. There are certain classes of the population, Professor Krafft-Ebing added, which appear to be specially liable to it—such, for instance, as labourers and officers in the army, while other classes seem to be peculiarly exempt from it. In conclusion, he expressed a hope that the necessary measures would be taken to check the growing evil.—Professor SENN (Chicago) then read an address on the Classification and Surgical Treatment of Acute Peritonitis.—He was followed by Professor METCHNIKOFF (Paris), who received quite an ovation from the audience. The title of Professor Metchnikoff's address was simply "Sur la Peste," and it was devoted principally to an interesting account of the recent work done in the bacteriology of plague. The lecturer briefly recapitulated the history of the discovery of the bacillus of plague and the mode of preparing the antitoxin. The work of Roux and Yersin was fully described. Roux had obtained the virus of plague in pure cultivation, and by immunising animals with this virus was able to obtain an antitoxin from the blood of animals so immunised. The horse was the animal usually selected. Even a weak serum had considerable effect in reducing the mortality from plague. Prophylactic injections had also proved to be of real value. In conclusion Professor Metchnikoff warmly protested against the attacks which were sometimes made upon science. Science was far from regarding with indifference the disappearance of the weakly in the struggle for existence. On the contrary, the most recent and most brilliant discoveries in medicine had shown that science, and science alone, could aid and protect the weakly in this struggle. Professor Metchnikoff's address was loudly applauded.—The meeting was brought to an end by Professor ROBERT'S address on the Characteristics of Human Pathology and its Relations to Therapeutics.

The Subscription Banquet.

A dinner for members of the Congress, at a charge of five roubles a head, was held on Wednesday evening, Aug. 13th (25th). The dinner was held simultaneously in four different places. Sections I., II., VII., and XV. dined at the "Cercle du Commerce"; Sections III., IV., V., VI., VIII., XIII., and XIV. at the "Cercle des Chasseurs"; Sections IX. and X. at the "Grand Hôtel de Moscow"; and Sections XI. and XII. at the Hermitage Restaurant. A very fair dinner of five courses, coffee, and "one glass of champagne," was provided. The dinners were attended by a considerable number; the proceedings were quite of an informal character. At the "Cercle des Chasseurs" Professor Virchow proposed the toast of "The Emperor," and a few other toasts followed. The dinner began at 6 o'clock, and by 9 o'clock most of the guests had dispersed.

The International Prize, Instituted by the City of Moscow.

On Saturday, Aug. 9th (21st), a meeting was held of the honorary presidents and presidents of sections under the presidency of Professor Sklifosovski. At this meeting a committee was elected to consider the conditions of the prize which the municipality of Moscow has offered to commemorate the holding of the Twelfth International Congress in Moscow. The committee elected was constituted as follows: M. Virchow (Germany), president; M. Fuchs (Austria), Professor Simpson (Great Britain), M. Crocq (Belgium), M. Bloch (Denmark), M. Robert (Spain), Professor Sayers (United States), M. Lannelongue (France), M. Homen (Finland), secretary; M. Pertik (Hungary), M. Romiti (Italy), M. Ogata (Japan), M. Lavista (Mexico), M. Laache (Norway), M. d'Ornellas (Portugal), M. Roth (Russia), and M. Kocher (Switzerland). The committee met on Tuesday, the 12th (24th), and has since issued the following statement:—

1. M. Roth reports that the Municipal Council of Moscow, at meetings held on June 10th (22nd) and July 29th (Aug. 10th), 1897, decided to institute a prize in commemoration of the Twelfth International Medical Congress. This triennial prize, to be awarded by successive international congresses, either for the best work upon medicine or hygiene, or for eminent services rendered to suffering humanity, will amount to 5000 francs (£200), representing the interest at 4 per cent. on the capital of 16,450 roubles voted by the municipality. The Council has also voted an additional sum of 5000 francs to be awarded by the present Congress. The municipality will decide later the conditions under which the payment of the sums named will be made.

2. M. Romiti proposed that the warmest thanks be expressed to the city of Moscow for its generous gift, and the proposal was accepted with acclamation.

3. M. Virchow proposed that at the present Congress the Prize of the City of Moscow be awarded to M. Henri Dunant for the services he has rendered to humanity in the part he has played in founding the Red Cross Societies.

4. The committee accepted unanimously the following proposal as to the method in which the prize should be awarded by future Congresses. The organising committee of each Congress will elect a preliminary commission which will collect all the preliminary data in connexion with the award of the prize. The commission, which will definitely choose the candidate to be named at one of the general meetings of the Congress, will be constituted as follows. The honorary presidents of the Congress and of the sections will meet at a special gathering summoned by the president of the Congress, and will name a member of each nation officially represented at the Congress. This committee will eventually be completed in such a manner that each section shall have at least one representative.

THE THIRD GENERAL MEETING.

Closing of the Congress.

The final meeting of the Congress was held in the Grand Opera House on Thursday, Aug. 14th (26th), at 2 o'clock in the afternoon. The theatre, as before, was crowded in every part. On the proposal of Professor SKLIFOSOVSKI, Sir William MacCormac took the chair as Honorary President of the meeting. The first address was that of Professor LUKIANOF, the Director of the Imperial Institute of Experimental Medicine in St. Petersburg, upon Inanition of Cell Nuclei. This paper contained an interesting and able account of a prolonged investigation carried out by Professor Lukianof in this particular branch of cellular pathology.—It was followed by an address by Professor LEYDEN (Berlin) on the Contemporary Methods of Treating Tuberculous Patients, and the Need of Government Control over them. Professor Leyden, who spoke in German, pointed out that tuberculosis caused more deaths than any epidemic, and that in Europe about one million persons annually fall victims to the disease. After describing the nature of the disease, and giving a brief account of its bacteriology, he said that there were two ways in which the disease might be combated. Either the bacillus might be directly attacked, or the constitutional powers of the individual might be strengthened and reinforced so as to enable him to withstand the influence of the bacilli. The efforts of Koch to produce a curative "tuberculin" were described; up to the present they could not be regarded as crowned with success. Until such an ideal curative material could be produced the best method of dealing with tuberculous patients was to treat them in specially constructed sanatoria. The principal points in this mode of treatment were the following: (1) choice of a suitable climate; (2) a good air, free from dust; (3) good nourishment; (4) exercise; (5) methodical treatment of the patient in special institutions; and (6) medicinal treatment as auxiliary to the general treatment. Cold fresh air was of the greatest importance; exercise, riding on horseback, or bicycling should also be permitted. All the various points in a successful scheme of treatment were only attainable in a properly constructed sanatorium. Many countries had already recognised the need of such institutions, and Russia had not been behind the other nations, as she already possesses three such sanatoria. Professor Leyden's address was received with loud applause.—Professor LOMBROSO, the Italian criminologist, who followed, spoke in French. The subject of his address was New Horizons and New Applications in Psychiatry. He spoke of the necessity of clear conceptions in the subject of psychiatry, not only for medical men, but for literary men, specialists in criminology and legal medicine, and for many other workers and thinkers in the field of sociology. He also discussed at some length the theory of heredity in connexion with the criminal instinct. Professor Lombroso's address was warmly applauded.—At the close of it Professor ROTH, the general secretary of the Congress, announced the conditions under which the prize of the city of Moscow will in future be awarded, and stated that the first award of the prize had been made to M. Henri Dunant, of Geneva. The thanks of the Congress were formally expressed to the city of Moscow for its institution of the prize.—Professor SKLIFOSOVSKI then spoke. The thanks of all the members of the Congress, he said, were due, first, to His Majesty the Emperor Nicholas II. for the honour he had

done the Congress in taking it under his patronage.—On the proposal of Professor LEYDEN a telegram, the text of which was read, was despatched to the Czar in the name of the Congress.—Secondly, Professor SKLIFOSOVSKI continued, thanks were due to His Imperial Highness the Grand Duke Sergé Alexandrovitch and the Grand Duchess Elizaveta Feodorovna, to whom a second telegram was also despatched. Further thanks were expressed to the Minister of Public Instruction, Count Delianof, to the University of Moscow, to the municipality, the director of theatres, the police and postal authorities, and to many others who had coöperated in furthering the success of the Congress. Finally, Professor Sklifosovski thanked the ladies' committee, the foreign Governments and institutions who had sent representatives, and all the members of the Congress, many of whom he hoped to see again three years hence in Paris. "Je ne dirai pas adieu," he said, "mais au revoir—à Paris."—Professor VIRCHOW then rose and, in the name of all the foreign members of the Congress, thanked the President and organisers of the Congress for the warm welcome they had received in Moscow and the admirable manner in which the great series of gatherings had been organised.—Professor SKLIFOSOVSKI, who was deeply touched, and whose voice was much broken by emotion, briefly responded.—Sir WILLIAM MACCORMAC, who spoke in French, made a brief closing speech. "The Twelfth International Congress," he said, "is almost at an end; its object is attained. Its success has been marked. Its labours will make an impression in the east and in the west. As regards the social and scientific gatherings of this Congress our Russian *confrères* have shown us an example which it will, indeed, be hard to imitate. They have welcomed us here, in the very heart of Russia, with all that is beautiful and all that is magnificent in this immense empire. And so we offer our most sincere and deepest thanks to our kind Russian colleagues, many of whom we trust to meet again at the next Congress in Paris."

Amidst loud applause the Congress then came to an end.

The extreme heat which set in just before the opening of the Congress has remained unbroken to the end. The last day was, in fact, the hottest of all. On Friday, the 15th (27th), the thermometer registered 94° F. in the shade at ten o'clock in the morning.

On Wednesday evening, August 13th (25th) a reception was held by the Ladies' Committee in the Salle de Noblesse, and was largely attended. The hall, a fine one, was effectively decorated with plants and flags, and a very good concert of orchestral and vocal music was performed. Madame Tairova recited a poem specially composed for the occasion, and some interesting pictures of Russian views and types of Russian character were shown on a screen by a lantern. Some national Russian dancing followed, certain of the dances being very curious and characteristic. The evening ended by the singing of the National Anthem.

SECTION I. (A, B, AND C).

ANATOMY, ANTHROPOLOGY, AND HISTOLOGY.

Considerable interest was taken in this section owing to Professor Lombroso and Professor Virchow being much in evidence. In the Anthropological Sub-division Professor LOMBROSO read a paper on the Influence of Climate on Anthropological Characteristics, and this was followed by one by Dr. ARBO on the Cephalic Index in Norway and the Difference in Form of Cranium in Different Districts in Relation to the Stature of the Inhabitants.—Professor VON LUSCHAN (Berlin) showed several Skulls with evidence of primitive trephining amongst the natives of Teneriffe.—Several papers were read on Polydactylism by, among others, Professor C. DEBIERRE (Lisle), Professor RANKE (Munich), and Professor BARDELEBEN (Jena), the question principally discussed being whether it was a deformity or a phenomenon of atavism.—Dr. WEINBERG compared the brain form of the Poles with that of several other races in neighbouring localities.—On the 23rd Professor VON LUSCHAN read a paper on the Anthropology of Certain Asiatic Races, and Dr. DENIKER on the Races of Europe. Professor VIRCHOW took part in the discussions.—Dr. IVANOVSKY (Moscow) gave some observations on the Anthropological Character of the Kurds of Ararat and also on the Characteristics of the Mongolian Skull.

Those interested in anthropology had the advantage in Moscow of having open to their inspection an extremely interesting anthropological collection, the popular character of which in some way reminded English visitors of the inimitable collection in the British Museum, though the science of anatomy was also well represented in the specimens.

SECTION II.

PHYSIOLOGY AND PHYSIOLOGICAL CHEMISTRY.

This section was not well attended, and no particularly noteworthy papers were announced.

SECTION III.

GENERAL PATHOLOGY.

There were many important papers set down for reading and discussion in this section, so many that a large proportion of them were taken as read. Professor HUEPPE (Prague) opened a debate which went to the very root of all the questions that arise in the discussion of modern pathology. His paper was entitled, "De la constance des espèces chez les microbes pathogènes au point de vue de la botanique et de la specificité des maladies." Among other papers of interest may be mentioned one by Professor LÉPINE (Lyons) upon the Genesis of Diabetes in its Different Forms; one by Professor CORNIL (Paris) upon the Pathology of Thromboses, in the preparation of which he was assisted by M. MARIE; and one by Professor BEHRING (Berlin) and Professor BOUCHARD (Paris) (represented by Professor ROGER, of Paris), upon the Rôle of the Antitoxins in the production of Artificial Immunity.

SECTION IV. (A, B, AND C).

GENERAL THERAPEUTICS, PHARMACOLOGY, BALNEOLOGY, CLIMATOLOGY, AND PHARMACY.

In this oddly-assorted section there were some interesting papers read under the different headings.

The proceedings in General Therapeutics were opened by an introductory address by Professor VON ZIEMSSEN upon the Therapeutics of the Present Day, which was listened to with the attention that the learned author always commands.—Dr. L. H. PETIT (Paris) then followed with a paper in which he advocated a prophylactic treatment of Pulmonary Tuberculosis by the establishment of sanatoria for those suffering from the disease.—Professor LEWASCHEV (Kazan) read a paper upon the Treatment of Diabetes, showing diagrams to illustrate the superiority of jambul over any other therapeutic agent.—Dr. PAUL PETRINI (Bucharest) recommended a method of feeding those suffering from the Dyspepsia of Deficient Secretion, or Atony of the Stomach, with the stomachs of cattle and decoctions made from them, and gave statistics of good results from this treatment.

Tuesday, Aug. 24th, was entirely devoted to Electricity and Electro-therapeutics.—Dr. APOSTOLI gave his recent experiences of the "undulatory current," and claimed for it that it was analgesic, that it diminished congestion, and that it was a good muscular excitant.—Professor BERGONIÉ (Bordeaux) advocated the electric treatment of trigeminal neuralgia, and also described experiments of the effects of Roentgen rays upon the bacillus of tubercle.—Dr. CHATZKY, Dr. DESCHAMPS, Dr. SASSOLI, and others also read papers upon electrical subjects.—Dr. PHILLIPS (London) was in the chair.

On Wednesday, Aug. 25th, a short *séance* was held, which was occupied entirely by a communication from Dr. PETRUSCHKI upon the Tuberculin of Koch, with notes of two cases in which it had been successfully used.

At the opening meeting of the sub-division of the section devoted to Pharmacy Professor CLAUDE VERNE (Grenoble) gave a description of his method for rendering tar entirely soluble in water, and later read an essay upon Pharmaceutical Education, strongly urging that the practical work should follow the theory and book-work, and not precede them, as at present.—Other papers were read at the two meetings upon, the Excretions of Plants, and upon some Atropine-containing Seeds, by Professor TSCHIRCH (Berne); Organo-therapeutic Preparations, by Professor POEHL (St. Petersburg); Oxydising Ferments, by Professor BOURQUELOT (Paris); while to more than one author it occurred to insist upon the formation and adoption of an international standard in pharmacy.—Professor MOELLER (Graz) recounted his recent experiments upon the Origin of Storax, which had brought him to the

conclusion that it was not a physiological secretion, but a pathological product.—Among other papers upon various drugs may be mentioned that of Dr. COLLIN (Paris) upon the Anatomical Characters of Leaves and Powders used in Medicine, and that of M. JOLCZINSKY (Moscow) upon Cheap Chinese Teas. Both these papers were of importance from the point of view of adulteration, and it need hardly be said that the adulteration of tea is a most important subject in a country like Russia, where tea is the national beverage.

On Tuesday, Aug. 24th, a paper by Professor TSCHIRIKOFF upon the best method of preparing "l'Eau d'Amandes Amers" was read in his absence.—Professor DAVIDOFF (Warsaw) discussed Ephedra Vulgaris; Dr. WARNER (Philadelphia) Ferula Sumbul; and M. KRESLING (St. Petersburg) dealt with Sero- and Organo-therapeutic Preparations from a pharmaceutical point of view; while Professor LEWIN read a communication upon Military Pharmacy.

Wednesday, Aug. 25th, was occupied by a visit to the Pharmaceutical Laboratory of M. FERREIN.

SECTION V.

MEDICINE.

Some valuable papers were also announced to be read in this section, but, contrary to the usual custom in these congresses, Medicine did not receive the same perponderating attention that it has done upon other occasions.—Professor VON LEYDEN (Berlin) read a paper on the Clinical Classification of Nephritis, in which he attempted to bring order into what is admittedly a rather disorderly subject.—Professor CELLI (Rome) discussed with intimate knowledge the theory that different forms of malaria have different parasitic origins; Professor CHARRIN and Professor GILBERT (Paris) and Dr. GRAWITZ (Berlin) read a thesis upon the Causes of Chlorosis; and Professor CARMONA Y VALLE (Mexico) and Professor RIBAS Y PERDIGÓ (Barcelona) read notes upon the Various Forms of Hepatic Cirrhosis, treating the subject from a clinical standpoint.—Dr. PAVY was invited to deliver a paper upon Diabetes.

Sir DYCE DUCKWORTH (Honorary Vice-president of the section) on Aug. 24th read a paper (in French) on Cases of Cerebral Disease in which the Function of Respiration entirely Ceases for Some Hours before that of the Circulation. He said: "The cases which I proceed to relate illustrate a remarkable point to which attention has not hitherto been much directed in clinical study—viz., the persistence of life for some hours in the absence of all respiratory effort. Such cases cannot be of frequent occurrence or they would certainly have been more fully recognised in the present day when attention is so carefully directed to the minutest clinical details. As I shall point out, however, several surgeons have observed the facts of which I now proceed to give details. I append the notes of four cases in which the respiratory function ceased for varying periods of time before death. Not to weary my audience with minute details of these, I give the following short abstracts of them: Case 1.—A girl, aged fifteen years, had suffered from purulent otitis for a year; cerebellar abscess followed. She was trephined, and pus was sought, but not found. The breathing ceased, but artificial respiration was employed *for nearly four hours* before the circulation stopped. The temperature was subnormal latterly. Case 2.—A young woman, aged twenty-one years, was admitted to hospital for headache and otitis. Respiration ceased; artificial respiration was carried on, and the skull was trephined and pus withdrawn from a temporo-sphenoidal abscess. The pulse failed, but was restored by oxygen and artificial respiration. The heart continued to beat with artificial respiration for *four and a half hours*, when it ceased. The temperature was 100·4° F. on admission on the eighteenth day, but afterwards became normal. Case 3.—A man, aged thirty-six years, was admitted to hospital with headache and otitis. Coma supervened on the seventeenth day of the illness, and on the nineteenth day the breathing ceased. Artificial respiration with oxygen and injections of strychnine were employed, and some improvement followed. The skull was trephined, and a temporo-sphenoidal abscess was tapped. The respiration ceased for *two* hours before the heart ultimately failed. The temperature varied from 96·2° to 102° F. Case 4.—A man, aged twenty-six years, was struck on the head by a heavy letter-bag in a post-office. Headache and coma followed, with left hemiplegia. The patient was trephined, and blood was removed from below the dura mater. The pulse had fallen to 44, but improved at once after the operation, but the respiration ceased and could not be restored. Artificial respiration was kept up for *five* hours before the heart stopped. A large cavity full of blood was found below the cerebral cortex. The temperature was never above normal. The patient lived for two days after the injury. Professor Macewen, of Glasgow, referred briefly to cases illustrating the peculiarity in question in his work on 'Pyogenic Infective Diseases of the Brain and Spinal Cord,' published in 1893, and in several of the cases related in this work there were observed depression of respiratory function together with a slowing of the cardiac action. In his lectures at San Francisco last year he reported cases where the pulse-rate was lowered to 40 and 20 in the minute as the intra-cranial pressure increased. He noted the occurrence also of modified respiration, somewhat of the Cheyne-Stokes type, in cases of abscess of the cerebellar fossa, leading to death from pressure on the respiratory centre, the pulse remaining quick and strong. In one case artificial respiration was carried on for twenty-four hours, the pulse never flagging all the time.[1] Professor Macewen informs me that he has lately met with two cases in each of which the breathing was re-established after hours of artificial respiration, and in one of these he opened and evacuated a cerebellar abscess while artificial respiration was being practised. In this case the relief of the cerebellar pressure greatly improved the general condition, and soon afterwards the respiration became voluntary. The patient recovered temporarily, dying from cardiac failure, probably due to exhaustion. The restored breathing continued perfect to the end of life. Professor Macewen has observed this phenomenon in a case of apoplexy, and in a very peculiar one, in which the brain-centre was active, but where the respiratory apparatus was destroyed by a crush, the heart continuing to beat and producing at each impulse a crackling of the broken ribs. Mr. Victor Horsley called attention to cases of this kind in a paper published in the *Quarterly Medical Journal* for July, 1894, referring to the fact that patients suffering from cerebral hæmorrhage, cerebral tumours, depressed fractures of the skull, and sudden and violent concussion, especially when applied in the occipital region, die from respiratory and not from cardiac failure, as is often supposed; and he quotes Dr. Hilton Fagge's observation that some cases of cerebral tumour and of abscess die from failure of the respiration.[2] He also points out that Leyden demonstrated in 1866 the effects of increased intra-cranial pressure in slowing the pulse, causing stertorous respiration and arrest of the latter.[3] Horsley and Walter Spencer confirmed these researches, and Leonard Hill has since re-confirmed them. Horsley's clinical studies show that in cases of cerebral tumour, hæmorrhage, and inflammatory foci death is apt to occur suddenly from arrest of the respiration, and that such is the common end of all cases of pathological intracranial tension, especially when the disease is extremely chronic. He offers the suggestion that in cases where patients fall apparently dead after sudden blows on the head, and are believed to die from cardiac failure, the real cause may be an arrest of the respiratory function, and possibly remediable by the practice of artificial respiration. Direct experiments prove that bullet wounds of the cerebral hemispheres are followed by an arrest of the breathing, and that recovery may follow when artificial respiration is employed, provided no hæmorrhagic pressure is exercised upon the respiratory centre. Again, in death by hanging the function of respiration is suspended before that of the circulation. The temperature in the foregoing cases was chiefly noteworthy in respect of the absence of pyrexia save in the third instance. The tendency in all was towards subnormal temperatures, and in the case in which the highest figure was reached there was a rise from 96·8° to 102° within sixteen hours, and operative procedures were begun at that time. These low temperatures are noteworthy in view of the several processes which were in progress within the skull. This thermic depression is, however, now well recognised in the secondary stages of cerebral abscesses, and is a feature of such cases. With the

[1] Occidental Medical Times, San Francisco, November, 1896.
[2] Principles and Practice of Medicine, 1886, pp. 528 and 551. In one case the respiration ceased thirty-five minutes before death, in another of multiple cerebral abscess in the posterior and middle lobes the breathing stopped ten minutes before death occurred.
[3] Virchow's Archiv, vol. xxxvii., 1866.

cessation of respiratory function we might expect a marked reduction of temperature to an even greater degree than occurred in these cases. In my case there had been a free employment of phenacetin, which might have still more reduced the temperature. The occurrence of suspended respiration for several hours in the highest mammalian organism, together with that of continued circulation of the blood for long periods, is very remarkable. Respiration may be carried on in animals which have been depleted of their blood and have had water introduced in place of it. But, in fact, with respiratory cessation death has practically already begun, and the respiratory centre, unless relieved of undue pressure, ceases to act. Although in such close proximity to the cardiac centre, the former is clearly much the more sensitive of the two, and lesions involving both tell primarily and with most force upon it. We may take it that the respiratory centre is the first to give out, and that it is the most vulnerable of all the great organic nerve-centres, the first to resent undue intracranial pressure. The clinical lessons of cases such as I have described are the following: 1. That efforts be made promptly to relieve intracranial pressure by trephining and probing. 2. To maintain artificial respiration diligently as long as necessary; that is, until the respiratory centre can resume its function independently. 3. To regard a lowered temperature as no contra-indication of purulent foci or hæmorrhagic foci in the brain. The fact of depressed or normal temperature is as significant in these cases as is the same occurrence in many examples of purulent peritonitis. I desire to express my thanks to my hospital colleagues for kindly allowing me to make use of their cases for this communication."

Dr. J. LINDSAY STEVEN (Glasgow) read a paper on a Case of Hypertrophic Pulmonary Osteo-arthropathy of Marie, without Pulmonary Disease, in the Section of Medicine, on Wednesday, Aug. 25th. Water-colour drawings, photographs, and skiagrams in illustration of the salient features were exhibited. The patient was a man, aged forty-eight years. He had been ill for about nine months. He first noticed enlargement of the hands and feet, but had not been disabled until eight or nine weeks before admission, when pain in the ankles and inability to close the hands obliged him to give up work. The deformity of the hands was typically that described by Marie as characteristic of pulmonary osteo-arthropathy. Skiagrams showed that this was due to subperiosteal new formation of bone. There was a corresponding deformity of the feet. There was no deformity of the face, trunk, or spine, and there was no retro-sternal dulness. There was, however, some deficiency of the temporal half of the visual field, and the daily average quantity of urine was decidedly excessive. There was absolutely no sign of disease in the chest, either in the heart or lungs. The relationships of the disease to acromegaly, osteitis deformans of Paget, and Marie's osteo-arthropathy were fully considered. On the whole Dr. Lindsay Steven considered that the symptoms conformed most to the last of these three affections. It was remarkable, however, that there was no pulmonary disease to account, on Marie's hypothesis, for the causation of the bone affection.

SECTION VI.

DISEASES OF CHILDREN.

The proceedings of this section on the first day were of great interest, a paper upon Chronic Nephritis and Albuminuria in Childhood from Professor HUEBNER evoking discussion from Professor COMBY, Professor VON STARCK (Kiel), Professor LEVESTRE, Professor VARGAS, Dr. LANGE, Dr. KATZ, and Dr. HOCHRINGER.—Professor VON RANKE read a paper giving the results of cases of "ponction en ceinture" in Hydrocephalus, which was discussed by Professor MONTI, Professor FALKENHEIM, Professor RACZEWSKY, Professor CONCETTI, Professor BOKAY (Budapest), Dr. ALEXANDROFF. Dr. MARTIN GIL (Malaga), Dr. MEINERT (Dresden), Dr. LANGE, Dr. MENDEZ, Dr. TOLOSI-LATOUR, and others. — Papers were also read upon Empyema in Children by Dr. CAMILLO HAJECH (Milan); the Normal Properties of Blood and their Different Modifications in the Sick of Various Ages, by Professor BAGINSKY (Berlin); Icterus Neonatorum, by Dr. WERMEL (Moscow); and Organo-therapy with Kidney Substance in Renal Disease, by Professor CONCETTI (Rome).

In the same section on Saturday, Aug. 21st, Professor MONTI read a paper upon the Results of Laparotomy in Tuberculous Peritonitis; Dr. VIOLI (Constantinople) dealt with Whooping-cough complicated with Influenza; Dr. JALARES (Barcelona) with Serum Therapeutics in Various Diseases of Childhood; Dr. ROMNICIANO (Bucharest) with Hereditary Syphilis; and Professor MONTI presented Some Statistics of the Results of Serum Therapeutics in Diphtheria and other Diseases.—In the afternoon there was a discussion upon Intubation of the Larynx, in which, amongst others, Professor BOKAY (Budapest), Dr. BOULAY, and Dr. TSAKWIS took part.

On Sunday, Aug. 22nd, combined *séances* were held between this section and those of Hygiene, Laryngology, and General Therapeutics.—Discussions took place upon the Influence of Mental Work upon the Health and Physical Development of Children and upon Physical Education, in which, amongst others, Dr. WIRENIUS (St. Petersburg), Dr. MENELLA (Rome), Madame WINOGRADOWA-LUKIRSKAJA (Moscow), Professor BARANOWSKY (Lemberg), and Professor PALMBERG (Helsingfors) took part.—Papers upon Infant Mortality, Vaccination, &c., were also read.

On Monday, Aug. 23rd, the Sections of Therapeutics, Diseases of Children, and Laryngology held an important combined *séance*, when a large number of statistics were presented by various members of the Results of the Use of Anti diphtheritic Serum, which were uniformly good and encouraging.—Dr. FIBIGER (Copenhagen) submitted the figures relative to a series of cases treated in the Blegdam Hospital, and constituting a year's practice in the hospital, concerning which he made the following claim: "*On a ainsi fourni une épreuve indiscutable de l'efficacité du serum anti-diphthérique, comme les résultats le prouvent*"—and Dr. VIOLI (Constantinople) spoke with hardly less emphasis.—Professor ROMNICIANO (Bucharest) read a useful paper upon the Possible Accidents Attendant upon Sero-therapy in Diphtheria, the net result of his conclusions being to recommend that no injection should be made until a bacteriological examination of the throat has confirmed the diagnosis of diphtheria.—Dr. PUJADOR Y FAUVA (Barcelona) recommended a new treatment of Scarlet Fever by Hypodermic Injections of Turpentine, which in his opinion not only cut short the disease, but was a prophylactic of scarlatinal nephritis.

On Tuesday, Aug 24th, a discussion took place upon the Artificial Feeding of Infants, in which, among others, Professor ESCHERICH, Professor JOHANNESSEN (Christiania), Dr. COTTON (Chicago), and Dr. FLACHS (Dresden) took part.—The Russian System of Foundling Hospitals and its Results were described and discussed by Dr. VAN PUTEREN (St. Petersburg), Dr. MASSINI (Genoa), and Dr. ARGUMOSA (Madrid).

On Wednesday, Aug. 25th, a short sitting was occupied with papers upon Vaccination and Disorders of the Gastro-intestinal Mucous Membrane by Dr. VIOLI (Constantinople) and Professor FEDE (Naples).

SECTION VII.

MENTAL DISEASES.

This section was opened with a few words of welcome by Dr. KOJEVNIKOF, one of the Presidents, the members present afterwards at his request announcing in turn each his name, which was received with plaudits varying with its being more or less generally known. Amongst those present were: Dr. Mierzeirewsky (St. Petersburg), Dr. Konstantinowsky (Moscow), Dr. Krafft-Ebing (Vienna), Dr. Erb (Heidelberg), Dr. Lombroso (Turin), Dr. Pitres and Dr. Régis (Bordeaux), Dr. Bernheim (Nancy), and Dr. Bérillon (Paris); and as delegates from Great Britain, Dr. Yellowlees, Dr. Finegan, Dr. Fletcher Beach, Dr. Cassidy, Dr. Macdonald, Dr. Shuttleworth, and Dr. Sutherland. The first day's papers were exclusively in French and German, authors of English communications promised not being present when called on.

The first subject discussed was that of Obsessions and Fixed Ideas. Dr. PITRES and Dr. RÉGIS presented a lengthy "Report," and other papers were read by Dr. BOUCHER (Rouen), Dr. MARIE and Dr. CH. VALLON, Dr. OTTO DORNBLUTH, and Dr. KONSTANTINOWSKY. — Dr. RÉGIS distinguished between (1) panophobic and monophobic states, and (2) obsession properly so called, dividing the latter into ideative, impulsory, and hallucinative obsessions. He discussed the etiology, course, prognosis, and termination of obsessions, and distinguished them, on the one hand, from fixed ideas, and, on the other hand, from psychoses, such as melancholia, and from neuroses, such as hysteria

and neurasthenia. In conclusion, he discussed the moral and medical means of treatment of such cases, stating that they were apt to prove refractory to hypnotic suggestion, but that gentle, soothing measures, with baths, electrotherapy, and physical exercises were beneficial.

Dr. BOUCHER read a paper on Hereditary Erythrophobia (fear of the colour red), and Dr. MARIE discussed other forms of obsessions, whilst Dr. KONSTANTINOWSKY gave instances of psychic phenomena with the character of irresistibility, which he contended did not properly fall under the category of obsessions as set forth by Westphal. The pathogeny of general paralysis of the insane and its delimitation from other forms of disease presenting similar symptoms (such as syphilitic disease, tabes, and, in the early stages, neurasthenia) was the next subject discussed.—Professor BINSWANGER (Jena) treated the subject from the pathological standpoint, and Dr. MURATOW (Moscow) and Dr. GREIDENBERG (Symferopol) from that of clinical experience, the latter contending that general paralysis is becoming an "aristocratic" disease amongst men and a "democratic" disease amongst women.

Professor HOMÉN (Helsingfors) read an interesting account of three cases of Juvenile Progressive Dementia in three children of the same parents, probably from inherited syphilis.

On the third day of Congress there was a combined sitting of the sections of Neurology and Histology to consider the subject of the Pathology of the Nerve Cell. Reports were presented by Professor VAN GEHUCHTEN (Louvain) Professor OROSIANERIKOW (St. Petersburg), Professor APATHY (Hungary), and Professor MARINESCO (Bucharest). Professor VAN GEHUCHTEN agreed with the observations of Cajal as regards the reticulated structure of the achromatic substance; and Professor MARINESCO concludes that the nerve cell consists of three essential elements: (1) a chromatic element, highly colourable by aniline, which he designates *élément chromatophile*; (2) an achromatic figured element; and (3) an amorphic achromatic element, the last giving substance, the two first-named giving definite form, to the cell.

On Sunday, Aug. 22nd, Professor LOMBROSO presided, and the theme was Hypnotism and Suggestion in their Relation to Legal Medicine and Mental Maladies. Professor BERNHEIM (Nancy) had prepared a report on this subject, the conclusions of which were as follows: 1. "Suggestibility" is a physiological property of the human brain; it is the tendency of the brain to realise every idea accepted by it. 2. Every accepted idea is a suggestion. Hypnotism is not a special state; it is putting into action the property of suggestibility, with or without sleep. 3. Suggestion can be made to call forth in certain persons criminal acts, whether by instinctive impulsion or by hallucination or by perversion of the moral sense. 4. Suggestion cannot destroy a robust moral sense, or create it when it is absent; it can but develop existing germs of good and bad. ..... 7. Congenital feebleness of the moral sense and proneness to suggestibility facilitate suggestions to crime. ..... 10. Absolutely free choice of action does not exist. It is often impossible to apportion the degree of responsibility in a given case. Society has but the right of self-defence and of social prophylaxis. 11. Education ought to intervene to neutralise germs of evil and oppose to natural instinctive impulses the counterpoise of restraining suggestions.

Dr. TOKARSKY (Moscow) afterwards read a paper on the Application of Hypnotic Suggestion in the Treatment of Mental Maladies, laying stress upon its beneficial effect in the period of convalescence; and Dr. BÉRILLON (Paris) recommended hypnotic suggestion in the education of children hereditarily degenerate.

The sitting of Aug. 23rd was devoted to the discussion of Tabes Dorsalis, its Pathogeny and Treatment. Professor OBERSTEINER (Vienna) presented a report on the subject, discussing its etiology and its pathological anatomy. The same subject was treated specially in relation with its cerebral localisations by Professor PIERRET (Lyon) and Professor ERB and Professor BENEDIKT also stated their views at considerable length. Dr. BROWN (Chicago) contributed observations on the treatment of the disease, founded upon its pathology as a sclerosis terminating in hypertrophy of the connective tissue and a destruction of the sensory neurons of the cord. Recognising the syphilitic origin of some 90 per cent. of the cases, he approved of anti-syphilitic treatment in the very early stage of the affection (pre-ataxic), but later preferred chloride of gold and sodium as an alterative. He placed reliance also on phosphide of zinc, alternated with arsenic. Rest, an equable climate, electricity, cold or tepid baths, and in recurring cases suspension were specially indicated. The paper which attracted most attention with reference to the treatment of tabes was that read by Dr. GRASSET (Montpelier). In eloquent language he discussed the nosology of tabes, pointing out its anatomical and clinical features, and defining it as a "syndromic" manifestation of multiple sclerosis, the origin of which was frequently of complex character. He admitted that syphilis was a preponderant cause, but the neuropathic constitution was also an element in the disease. Though cure was rare, it was possible in the clinical sense though certain anatomical lesions might remain. Treatment must be directed (1) to the causal elements; (2) to the lesions; and (3) to the symptoms, anti-syphilitic and anti-arthritic remedies being useful for the first, ergot and the iodides to the second, and sedatives for the lightning pains. For the ataxia Frenkel's methods were of service, and in certain cases hypnotism, hydro-therapeutics, and electric treatment were called for.—Subsequently Dr. FRENKEL (Heiden) read a paper on the Treatment of Tabes and gave a demonstration of apparatus used by him; and Dr. G. E. SHUTTLEWORTH made an interesting communication upon Hereditary Neurosis in Children, of which the following is an abstract. Dr. Shuttleworth defined neurosis as an abnormal condition of the nervous system tending to disorder of function, not obviously connected with structural change, but often associated with trophic defect. He proceeded to show how hereditary neurosis implied abnormal irritability of nervous tissue, and consequent instability of function manifesting itself by sensory, motor, and psychic disturbances. In so-called nervous families were found mentally and morally defective children—children liable to eclampsic, convulsive, and choreic affections, and children who suffered from every form of "nerve-storm." Neurotic inheritance varied in form of manifestation in different generations and in members of the same generation; and this fact was illustrated by typical genealogical tables. The history of a degenerating family was passed in review in its downward course towards extinction. Statistics were given as to the hereditary influence of mental and nervous disease, of strumous and syphilitic taints, of alcoholism, of consanguinity, of senility, &c., in the parentage in determining neuroses in the offspring. The views of Richarz and others as to pre-potentiality of one or other parent in the transmission of neurosis were considered, and the variety of form of inherited nervous disease in children was discussed. From the sociological standpoint the necessity of educating public opinion as to the harmfulness of the intermarriage of neurotic persons was insisted on; and the paper closed with some remarks upon the precautions called for in the up-bringing and education of children of neurotic inheritance.

On Tuesday, Aug. 25th, at the morning sitting, Professor JOLLY (Berlin) read a paper on the Psychical Accompaniments (Störungen) of Polyneuritis, and this was followed by a paper by Dr. ALEXANDER ROBERTSON (Glasgow), on Some New Methods of Treatment in Diseases of the Central Nervous System. In the first portion he referred to the application of heat and cold at graduated temperatures to the head and spine as a means of stimulating the brain and spinal cord to more active metabolic processes. Cases in which such treatment had proved beneficial (e.g., of stuporose insanity and catalepsy with stupor) were cited, and it was stated also to be useful in inflammatory and degenerative diseases of the spinal cord. The apparatus used was shown. Subsequently the mode of percussion of the skull useful in the diagnosis of tumour or other gross lesion of the surface of the brain was demonstrated. The subjects of psychic impression, the use of prolonged cold douche to the head, and electrisation of the medulla oblongata were also dealt with by Dr. ROBERTSON.

A communication by Professor MACEWEN (Glasgow) on Brain Surgery was promised for the combined sitting of the Neurology and Surgery Sections on the afternoon of the 24th, and a paper by Dr. J. F. SUTHERLAND (Deputy Commissioner in Lunacy for Scotland) on the Legal Bearings of the Transitory Mania of Alcoholic Drunkenness was read on the 25th.

SECTION VIII.

DERMATOLOGY AND SYPHILOGRAPHY.

In this section among other important papers may be mentioned one upon Acanthosis Nigricans by Professor

JANOWSKY (Prague), which led to a discussion between the author and Dr. HEUSS (Zürich), Dr. COUILLAUD (Paris), and Professor PETRINI (Bucharest); and one upon the Etiology of Area Celsi by Dr. H. RADCLIFFE CROCKER (London).

The section was opened on Friday, the 20th, under the presidency of Professor POSPÉLOW, who in his introductory address gave a historical sketch of the Rise and Development of Dermatology in Moscow and its culmination in the magnificent new clinique in which the *séances* of this section were held. The clinique was opened to patients on Sept. 1st, and will be the finest clinique devoted to dermatology in the world. It contains sixty beds, a complete system of baths, laboratories, &c. The lecture theatre, where this section met, was large and well lighted, and the walls were lined with glass cases containing models and drawings of diseases of the skin. There were about 200 members present. Dr. RADCLIFFE CROCKER was the only English representative of dermatology, and was one of the Presidents for the day. The first speaker was Professor TARNOWSKY, who read a paper on Syphilis as it Occurs in Russia, where it is very prevalent in some districts, varying from 20 per 1000 inhabitants to 25 per 1000 in Tambow and Saratov.—Professor GAY followed on the same subject, and then Professor HALLOPEAU and Professor GAUCHER (Paris) opened a discussion on Toxins as Pathogenic Factors in Diseases of the Skin, and adduced strong arguments to show that toxins would play an important part in etiological researches in the near future. Dr. LASSAR, Dr. UNNA, and Dr. BARTHÉLÉMY joined in the discussion.

On Saturday, Aug. 21st, Professor KAPOSI (Vienna), Professor SCHWIMMER (Budapest), and Dr. SACH (Heidelberg) opened a discussion on Tuberculosis of the Skin, taking respectively Miliary, Primitive, and Verrucose Tuberculosis of the Skin.

On Sunday, Aug. 22nd, the Methods of Treatment of Syphilis by injection of soluble and insoluble salts of mercury and by mercurialised serum engaged the attention of the section throughout the *séance*, Dr. WOLFF (Strasburg), Dr. JULLIEN (Paris), Dr. GAUCHER (Paris), Dr. SOFFIANTINI (Milan), Dr. TARNOWSKY and Dr. JAKOWLEFF (St. Petersburg) being the chief speakers.

On Monday, Aug. 23rd, the Time when the Treatment of Syphilis should be Commenced and How Long it Should be Continued produced an animated discussion by Dr. SCHWIMMER, Dr. WATRASCHEWSKI (Warsaw), Dr. JULLIEN, Dr. LASSAR, Dr. VON ZEISSL, junior, Dr. COLOMBINI, and Dr. ROSENTHAL.—Dr. DE AMICIS then read a paper illustrated by numerous drawings on the Varieties of Sarcoma of the Skin.—This was followed by a discussion on the Pathogeny of Alopecia Areata, introduced by Dr. RADCLIFFE CROCKER, of which the following is an abstract. The conclusions are based on 432 hospital cases and 200 consecutive cases in private practice. The hospital cases show a frequency of 2·5 per cent.; 232 were males and 200 were females. No case occurred under two years or over sixty years (in private practice there were three cases between sixty and sixty-five years). Between the ages of five to fifteen years there were 180 cases, from fifteen to twenty-five years 90 cases, from twenty-five to thirty-five years 89 cases, from thirty-five to forty-five years 49 cases, and from forty-five to fifty-five years 16 cases. Thus between the ages of five and thirty-five years there were no less than 359 cases out of the whole 432, while there were as many cases between five and fifteen years as there were between fifteen and thirty-five years, clearly showing that the disease largely predominates in childhood. Dr. Crocker considers that the diseases known as alopecia areata are divisible into two great classes—(1) alopecia neurotica; and (2) alopecia parasitica. Each class may be subdivided. Class I., although probably not representing 10 per cent. of the whole, may be divided into—Type I., alopecia universalis; Type II., alopecia localis *seu* neuritica; and Type III., alopecia circumscripta of Neumann placed provisionally in this class. Class II., to which alopecia areata should be restricted, is probably entirely parasitic and constitutes 90 per cent. of all the cases. There are two types at present recognisable: Type I., cases allied to, or connected with, tinea tonsurans; and Type II., cases connected with seborrhœa capitis. While Dr. Crocker believes that Type I. comprehends the great majority of cases he cannot state what is the proportion between the two types. Moreover, it is probable that just as there are several varieties of parasite which produce the condition we call tinea tonsurans, so there may be more than one kind of microbe capable of producing smooth bald patches such as we comprehend under alopecia areata. Thus the pea-sized smooth patches so often recorded in local outbreaks might well be due to a special form of microbe. Again, there might possibly be some differentiation between the band form and the patch form, though Dr. Crocker hitherto had been unable to form the conclusion that they were pathologically distinct. He brought forward evidence to show that the disease is to a limited extent contagious for adults as well as children; that there was reason to believe that it might be spread by various means, such as shaving, hair cutting, especially by the *tondeuse*, theatrical wigs, dirty cushions, as in railway carriages, &c., as well as directly from one person to another; that persons in close contact with ringworm sometimes developed alopecia areata; that ringworm itself might develop into alopecia areata; and that in those countries where tinea tonsurans was most common alopecia areata was also most common. With regard to seborrhœa and alopecia areata he described certain peculiarities in many of the cases in which bald patches were associated with extreme seborrhœa, but did not think that Sabouraud's conclusions, that the seborrhœic microbe was the cause of all alopecia areata, were conclusively proved or that it was consonant with all the clinical facts. Dr. Crocker asked the meeting to confine the discussion to Class II, as there was a general agreement as to the neurotic origin of Class I., and the only point left was as to whether it should be included under alopecia areata at all. With regard to Class II., he asked the meeting to state their views as to what proportion of cases the two classes represent; how far they agreed with the view that Class II. was parasitic, and what was the relation of alopecia areata to tinea tonsurans on the one hand or seborrhœa on the other, or was it due to some microbe unconnected with either? If the meeting admitted that Class II. was due to a parasite and therefore contagious, even though only in a very slight degree, should children affected with it be kept from school and segregated from other children? Dr. Crocker was followed by Dr. LASSAR (Berlin), Dr. MANASSÉIN (St. Petersburg), and Dr. CIARROCCHI (Rome).—Dr. PETERSEN gave an interesting communication on Initial Forms of Leprosy, adducing two cases where the interior of the nose was first affected, possibly by inoculation of bacilli by the finger.

On Tuesday, Aug. 24th, the *séance* was held at the old clinique of Professor Pospélow, which contains 400 beds, almost all containing cases of syphilis. Three cases of leprosy were shown and a few cases of interest were exhibited on the previous days, but as a whole the number of clinical cases shown was very small.

The rest of the session was devoted to the reading of papers by Dr. CAMPANA, Dr. ROSENTHAL, Dr. UNNA, Dr. LASSAR, and others. The last two days, judging by the programme, would be occupied chiefly by subjects connected with gonorrhœa and syphilis. On the whole, except as regards the paucity of clinical material, the Section of Dermatology was very successful, well-organised, and well-attended.

SECTION IX.

SURGERY.

This section, like the Section of Medicine, suffered much by the multiplication of special sections, so that many papers which we are wont to regard as on purely surgical subjects were read in sections dealing with Diseases of Children, with Ophthalmology, Odontology, and Otology, &c. Among interesting papers may be mentioned one by Professor VON BERGMANN (Berlin), upon the Operative Treatment of Jacksonian Epilepsy; one by Professor CZERNY upon the Various Methods of Treatment of Strictures of the Œsophagus and Rectum; and one by Professor OLLIER (Lyons) upon the Syphilitic and Gonorrhœal Affections of Joints.—Dr. J. LUCAS-CHAMPIONNIÈRE also made an interesting communication upon the Treatment of Certain Forms of Fracture, where the fractured ends are very mobile. He lays no stress upon the maintenance of complete immobility, but employs massage from the beginning.

SECTION X.

MILITARY MEDICINE.

Such very varying subjects as Ambulance Procedure on the Field of Battle, the Provision of a Good Water-supply

for a Marching Army, and the Best System of Education for an Army Medical Service, provided topics for discussion in this section.

SECTION XI.

OPHTHALMOLOGY.

Among the papers in this section which led to discussion or attracted notice may be mentioned one by Professor ANGELUCCI (Palermo) and one by Professor KUHNT (Königsberg) on the Treatment of Trachoma; one by Dr. KNAPP (New York) on the Nature and Mechanical Treatment of Granular Conjunctivitis; one by Professor PAGENSTECHER (Wiesbaden) on the Treatment of Asthenopia; and one by Professor L. BELLARMINOV (St. Petersburg) upon the organised work of the Société Marie in Russia for the Alleviation of the Blind.

SECTION XII. (A AND B).

DISEASES OF THE EAR, THROAT, AND NOSE.

The most important work done in this section has already been referred to in the Section of Diseases of Children. The testimony of the special workers to the efficacy of the antitoxin treatment of diphtheria was especially valuable.

SECTION XIII. (A AND B).

OBSTETRICS AND GYNÆCOLOGY.

Under the heading of Obstetrics three subjects led to discussion among the members who attended the work of this section, viz.: Symphyseotomy, upon which operative measure Professor VARNIER (Paris), Professor ZWEIFEL (Leipzig), and Professor BOSSI (Genoa) addressed the meeting; Sero-therapy Applied to Puerperal Septicæmia, upon which Professor BAR (Paris), Dr. WEINSTEIN (Odessa), and Dr. WALLICH (Paris) spoke; and the External Examination of the Uterus, when the meeting heard the views of Professor LEOPOLD (Dresden), Professor HENNIG (Leipzig), and Professor PINARD (Paris).

Under the heading of Gynæcology the chief theme of discussion was Colpotomy in Inflammation of the Adnexa and in Neoplasms of the Uterus, when Professor CANDELA (Valence), Professor DOYEN (Rheims), Professor DUHRSSEN (Berlin) and Professor MARTIN (Berlin) spoke. Several papers were also announced on the Electrical Treatment of Fibroids and of the results of Extra-Uterine Conception. Among these may be mentioned a paper by Dr. T. P. NEDOBODOFF (Moscow) entitled "Le Traitement et Guérison Complète par l'Electricité de la Grossesse Extra-utérine et de ses Suites," in which the author came to the following conclusions: (1) the first stages of extra-uterine pregnancy can be successfully treated by electricity; (2) until the middle of the fourth month electrical methods can probably be employed with advantage; (3) where degeneration into hæmatosalpinx has taken place electrical therapeutics are the only ones practicable; and (4) even in slowly forming peri-uterine hæmatoceles electricity may be tried with success.

SECTION XIV.

HYGIENE, PUBLIC MEDICINE, SANITARY STATISTICS, AND EPIDEMIOLOGY.

This section was throughout largely attended, and many of the papers set down to be read in it would have been naturally read in the Section of Medicine, which certainly suffered by these elaborate sub-divisions. On the first day (Aug. 20th) there were interesting papers read, among others, by Dr. BURGERSTEIN (Vienna), upon the Propagation of Sanitary Knowledge among the Populace; and by Professor VICTOR C VAUGHAN (Michigan, U.S.A.) on the Bacteriological Examination of Drinking Water. Professor VAUGHAN said that he had been engaged for the past nine years in making bacteriological examinations of water suspected of causing typhoid fever. The examination had consisted of the ordinary plate tests and counting the number of germs per cubic centimetre, but in addition to this animals had been inoculated with mixed and pure cultures of the germs obtained from each of the waters examined. The pathogenic germs which were found could be divided into two classes, first, those of the colon group, and, second, those resembling the typhoid bacillus. Waters containing germs belonging to the colon group had not been condemned by him, while those containing germs resembling the typhoid bacillus had been condemned. The fact that in every instance the epidemic of typhoid fever had ceased on the discontinuance of the condemned water indicated that such analyses were of practical value.

On the following day, Aug. 21st, an interesting paper was read by Mme. M. I. POKROVSKAÏA, (St. Petersburg) upon Workmen's Dwellings Abroad, in which she came to the following conclusions:—(1) That good workmen's dwellings are always popular; (2) that if worked upon economical lines they can be made a paying form of philanthropy; and (3) that the necessary rules and sanitary organisation conduce much to the sanitary well-being of the lower classes.

Professor EDWARD NOCARD (Alfort) read a paper upon Serum Therapeutics in Tetanus. He considered it under the headings of (*a*) its use as a curative agent and (*b*) as a prophylactic. He came to the following conclusions under the above two headings:—(*a*): 1. When tetanus has once declared itself the antitoxic serum has no action. It is powerless to arrest the fatal result of the malady, and this whatever be its strength or the amount of the dose injected. Those alone are cured who would have got well in any case. 2. The serum treatment is, however, useful even in declared tetanus, for even if the number of cures is not increased, yet those who do recover do so more quickly, the tetanic crises are less numerous and less violent, and the period of convalescence is much shorter. (*b*): 1. The antitoxic serum, even in a weak dose, if injected at the moment of reception of the suspicious injury, or even some time after its reception will prevent the onset of tetanus. 2. The dose injected must be both larger and stronger according to the length of time intervening between the reception of the wound and the employment of the serum. Intravenous injections are better than hypodermic; the attack of tetanus is not always warded off, but, as a rule, if it does appear, it is of a mild quality and the animal soon gets well even when it has received a dose of toxin invariably fatal to a control animal.

The members of this section were escorted one afternoon to see the abattoirs of the city of Moscow, which are situated some miles outside the city. The abattoirs are large, well-arranged, and well managed, and their being situated thus far from the city obviates one source of sanitary nuisance.

SECTION XV.

LEGAL MEDICINE.

Among the topics set down for discussion in this section may be mentioned the Creation of a Special Profession to be known as Médecins-Légistes, a suggestion brought forward by Professor PATENNKO (Kharkof); the Application of Bacteriological Research to Medical Jurisprudence, a paper on which subject was read by Professor LACASSAGNE (Lyons); and the Adequate Penalty for Sexual Crime, which subject was introduced by Professor KRATTER (Graz).

In this section an interesting paper was read by Dr. J. F. SUTHERLAND, Deputy Commissioner in Lunacy for Scotland, on the Temporary Mania of Intoxication and the Anomalous Attitude of Civil and Criminal Law. The following is a brief *résumé* of the paper. The writer, in respectfully submitting to the medical jurists and specialists of every civilised nation assembled in the ancient capital of Russia his views on the attitude of the criminal law with respect to crimes committed by persons in a state of intoxication, contends that the criminal code which regards the authors of crimes such as murder, culpable homicide, &c., as fully responsible to the law, and thus places them on the same footing as criminals actuated by *malice prepense*, is not only not in harmony with the views expressed by modern schools of jurisprudence and ethics in the closing years of the nineteenth century, but is positively cruel and unjust, and warranting the suggestion, if not the appellation, of such a code being a draconian one. The position of Great Britain is not an enviable one. In regard to her criminal code, and her attitude towards drunkenness and habitual drunkenness, her place is not in the European concert. But her voluntary exclusion, it is to be hoped, is only a matter of time. Drunkenness is a perfect picture of insanity—none more so in the whole range of lunacy. The anomalous, not to say illogical and unjust, attitude of the criminal law is heightened by a consideration of the attitude of the civil law, which to all intents and purposes shields the drunkard from the consequences of civil acts, testamentary dispositions, and contracts made in a state of intoxication. As a justification of their position it has been urged by a school of jurists, who neither admit the insanity plea nor

take cognisance of important questions such as free will, biology, sociology, &c., that the scaffold, the guillotine, and electrocution are deterrents to the drunkard. There could be no greater delusion. They may be, and no doubt are, to the deliberate murderer, but they come not within the vision, mental or physical, of the man intoxicated. When he begins imbibing he does not mean crime, least of all murder. When he has drunk he is past the reflective stage, and with will power paralysed acts like a madman. In this connexion it is worthy of observation that most drunkards are potential murderers. It is the merest accident that the assaults they commit do not terminate fatally, and that as a consequence capital punishments are not multiplied a thousandfold. It is not their fault; the violence is not measured. Everyone recognises alcohol as a brain poison, producing certain well defined mental derangements—in short, insanity. But drunkenness, says the law, is a form of insanity which must not, like the other insanities induced by alcohol or by vice, exculpate or modify guilt. Judged by criterions of responsibility—above all, that laid down by the bench of judges in 1843—such a view is illogical and untenable. There are, apart from the views of the law and its criterion of responsibility, other considerations more or less significant which should make jurisprudence—ofttimes hampered by a fetich regard for precedents—more merciful towards such offenders. In considering the fate and punishment of drunkards who have committed crimes regard should be had by the judiciary and by juries to—(1) the attitude of the civil law, which protects the drunkard from the consequences of his acts, practically recognising his condition as being one of *non compos mentis*; (2) the attitude of the law towards drunkenness *per se* and habitual drunkenness (as a matter of fact, both are winked at by the laws of Great Britain until a crime is committed); with such a state of matters as this there is no excuse for the severity of the criminal code; (3) the nature of the toxic beverage—made highly toxic by the presence of adulterations and sold freely with the sanction of law; (4) climate, race, and temperament—the Teutonic being as a rule more prone to excesses than the Gallic, and the Gallic than the Slavonic; and (5) the fact that the defence of such criminals is left to youthful and inexperienced lawyers, who have no means provided to make the best case possible by the employment of eminent counsel and skilled witnesses, while the prosecution is conducted with the most powerful resources of the State.

THE MEETING OF THE BRITISH MEDICAL ASSOCIATION AT MONTREAL.

THE sixty-fifth annual meeting of the British Medical Association commenced upon Aug. 31st at Montreal. Upon Sept. 1st the McGill University conferred honorary degrees upon the following:—Lord Lister, Professor Richet, Sir Walter Foster, Sir William Turner, Dr. H. Barnes, Dr. Michael Foster, Dr. Gaskell, Mr. Christopher Heath, Dr. Alexander Macalister, Dr. Saundby, and Mr. Wheelhouse.

Owing to the pressure upon our columns, due to the International Medical Congress at Moscow, we are unable to find space this week for all the addresses, but that of the President and those of the Presidents of the Sections of Medicine and Surgery will be found in another column. Abstracts of the others, together with details of the proceedings, will be published in future issues.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—The following candidates have passed in the subjects indicated:—

Surgery.—L. L. Allen, St. Bartholomew's Hospital; P. S. Blaker, Calcutta; J. B. Cautley (Section I.), St. Bartholomew's Hospital; J. W. F. Rait, University College Hospital; L. Tong, Manchester C. A. Trouncer, Cambridge and Guy's Hospital; and E. M. Vernon (Section II.), Royal Free Hospital.

Medicine.—E. L. Anderson, Liverpool; S. R. Bhagtani, King's College Hospital; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St. Thomas's Hospital; C. C. Poole, Guy's Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; E. M. Vernon (Section II.), Royal Free Hospital; S. K. Vines, Birmingham; and A. M. Weir, Royal Free Hospital.

Forensic Medicine.—H. A. Ahrens, King's College Hospital; E. L. Anderson, Liverpool; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St. Thomas's Hospital; C. C. Poole, Guy's Hospital; W. A. H. B. Smith, King's College Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; S. K. Vines, Birmingham; and J. H. Wilson, Middlesex Hospital.

Midwifery.—E. L. Anderson, Liverpool; S. R. Bhagtani, King's College Hospital; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St. Thomas's Hospital; C. C. Poole, Guy's Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; S. K. Vines, Birmingham; and A. M. Weir, Royal Free Hospital.

The diploma of the society was granted to the following candidates, entitling them to practise Medicine, Surgery, and Midwifery:—E. C. Corfield; J. W. F. Rait; G. Steel; C. A. Trouncer, E. M. Vernon, and S. K. Vines.

REGISTRATION OF PLUMBERS.—An examination of master and operative plumbers applying for registration under the National Registration of Plumbers was held on Aug. 28th by the Worshipful Company of Plumbers at the Borough Polytechnic Institute. Twenty-six candidates were present from various parts of London and the following provincial towns:—Lyme Regis, Maidstone, St. Peter's (Kent), Bishops Stortford, Southend-on-Sea, Eton, and Haywards Heath. The practical tests included lead bossing, pipe bending, and joint making. The examination questions included the subjects of roof covering, contamination of drinking water from faulty connexions, arrangement of bath, sink, and closet wastes, drainage of town houses, and disconnexion with sewers. The examiners were:—Mr. Charles Hudson, Chairman of the Board of Examiners, Mr. J. Knight, Master Plumber, Mr. G. Taylor, Foreman Plumber, Messrs. F. Randall and F. Barter, Representatives of the United Operative Plumbers' Associations of great Britain and Ireland, and Mr. C. T. Millis, Principal of the Educational Department, Borough Polytechnic Institute. Five candidates succeeded in passing the examination in practical workmanship.

THE QUARTERLY COURT OF THE MIDDLESEX HOSPITAL.—A meeting of the Quarterly Court of Governors of the Middlesex Hospital was held on Aug. 26th, and a summary of transactions of the weekly board of Governors was laid before the meeting. Among other things the board had the honour to report that His Royal Highness the Duke of Cambridge, K.G., Vice-President, in accordance with the resolution of the Special General Court held in May last, presented the loyal address of the Governors and medical staff of the hospital to their most gracious patron the Queen on the auspicious occasion of the sixtieth anniversary of her beneficent reign, and the address was very graciously received by Her Majesty. The foundation-stone of the new wing for female cancer patients had been laid on July 15th by Her Royal Highness the Princess Christian of Schleswig-Holstein. The erection of a temporary building in the hospital garden has been sanctioned to enable the school authorities to carry on the work of the Anatomical and Chemical Departments while the proposed alterations and extensions to the medical school are in course of progress. The Council has announced that Baron Strathcona and Mount Royal of Glencoe, K.C.M.G., High Commissioner of Canada, and Chancellor of McGill University, Montreal, will address the students at the opening of the Winter Session on Oct. 4th next. Among the legacies received during the quarter the further munificent sum of £10,000 has been paid over by the executors of the late Mr. David Brandon, being on account of one-sixth of the residue of his estate bequeathed to the hospital, in addition to the specific bequest of £3000 already paid and reported to the last court. The donations list for the past quarter includes £1000 from "Cambridge" and £500 "Anonymous" (per Dr. Arthur Francis Voelcker), both to the Cancer Fund. The Convalescent Home at Clacton-on-Sea has been kept full, no less than 251 patients having been admitted during the quarter ending June 30th. With deep regret the board had to record the death of Dr. Henry Thompson, consulting physician to the hospital, who died on July 22nd. The board have approved with other hospitals a scheme for the formation of a Central Association of Representatives of London Hospitals with Medical Schools, the object of the association being to consider any matter in which the hospitals have a common interest and to promote joint action in regard thereto.

THE LONDON HOSPITAL.—The quarterly court of governors of the London Hospital was held on Sept. 1st. The secretary read the quarterly report, stating that the number of patients discharged cured was 1297, number relieved 1131; died 260; giving a total of 2688. The out-patients numbered 14,363. The chairman, in moving the adoption of the report, said that they had received from the Brandon legacy £10,000 during the present quarter, in addition to £3000 received from the same source before. The Grocers' Company had continued their donation of £1000, and Mr. Page had given £1000. He was opposed to such an organisation as a central hospital board. The Prince of Wales's Fund had not as much effect as they had expected in the direction of a reduction of subscriptions, but nevertheless it had had some. The idea with which the fund was started was a grand one, but he was afraid that only a sixth of the necessary amount had been promised. Although their expenditure at the London Hospital was £60,000 per annum, and their assured income was only £20,000, he was confident they would carry on their work with the same efficiency as in the past. This motion was seconded by Mr. J. Hall and adopted.

CHURCH SANITARY ASSOCIATION.—We have just received the report of the annual meeting of the Church Sanitary Association, which was held at 1, Hamilton-terrace, London, on May 11th, under the presidency of Dr. Norman Kerr, in the unavoidable absence of the Bishop of Coventry. Founded six years ago with the view of promoting sanitary reform in every parish, this society has adopted the method of making use, as far as possible, of the parochial organisation of the church, and of endeavouring to induce preachers and teachers to enforce the obligation that rests upon all, to care "as well for the body as the soul." The Gospel appointed to be read in every church on the seventh Sunday after Trinity has been suggested as affording an opportunity of bringing the aims of the society to the notice of the public generally. During the past year sermons were preached, meetings were held, leaflets and pamphlets were distributed, and numerous communications were sent to the press; a memorial to the Government asking for proper inspection of meat before it was offered for sale was very largely signed, and during the Church Congress at Shrewsbury special efforts were made to have instruction respecting the health and temporal welfare of mankind reckoned as an integral part of the Church's work. The Archbishop of York is president of the association, the Duke of Westminster and Major E. F. Coates are patrons, and the Rev. F. Lawrence, Westow Vicarage, York, is treasurer and secretary.

BOOKS, ETC., RECEIVED.

BALE, JOHN, SONS, AND DANIELSON, Great Titchfield-street, Oxford-street, London.
The Relief and Cure of Spinal Curvatures. By Dr. P. G. Lewis. Illustrated. 1897. Price 7s. 6d. net.

BORNTRAEGER, G., Berlin.
Das Wesen der Rhachitis und Skrophulose und deren Bekampfung. Von Dr. K. Elze. 1897.

CHURCHILL, J. & A., Great Marlborough-street, London.
The Students' Guide to Medical Diagnosis. By S. Fenwick, M.D., F.R.C.P., and W. S. Fenwick, M.D., B.S. Lond., M.R.C.P. Eighth Edition. 1897. Price 9s.

FISCHER, GUSTAV, Jena.
Die Pathologie der Tabischen Hinterstrangserkrankung. Von Dr. Emil Redlich. 1897.

KEENER, THE W. T. COMPANY, Chicago.
Crime and Criminals. By J. S. Christison, M.D. 1897.

KEGAN PAUL, TRENCH, TRÜBNER, AND CO., London.
The Book of Tephi. By J. A. Goodchild. 1897.

LEWIS, H. K., Gower-street, London.
Practical Muscle Testing and the Treatment of Muscular Atrophies. By W. S. Hedley, M.D. Illustrated. 1897. Price 3s. 6d.

LIPPINCOTT, J. B., COMPANY, London.
System of Diseases of the Eye. Edited by W. F. Norris, A.M., M.D., and C. A. Oliver, A.M., M.D. Vol. II.
Examination of the Eye, School Hygiene, Statistics of Blindness and Antiseptics. Illustrated. 1897. Price 21s. net.
Lippincott's Medical Dictionary. By R. W. Greene, A.B., and others. 1897. Price 31s. 6d.

LIVINGSTONE, E. & S., Edinburgh.
The Insane in Private Dwellings and Licensed Houses. By J. F. Sutherland, M.D., F.R.S.E. Second Edition. 1897. Price 1s.

MACMILLAN AND CO., London.
Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of Dr. Robert Wiedersheim. By W. N. Parker, Ph.D. Second Edition. Illustrated. 1897. Price 12s. 6d.

MARSHALL, H., AND SON, Fleet-street, London, E.C.
The London Manual for 1897-98. Edited by Robert Donald. Price 1s. 6d., and paper covers 1s.

MURRAY, JOHN, Albemarle-street, Piccadilly, London.
A Guide to Zermatt and the Matterhorn. By E. Whymper. Illustrated and Maps. 1897. Price 3s.

POTTER AND CLARKE, Artillery-lane, London, E.
Etidorhpa, or the End of Earth. The Strange History of a Mysterious Being. Communicated in manuscript to Llewellyn Drury, which was assumed by J. Uri Lloyd. Illustrated. Third Edition. 1897.

SAMPSON LOW, MARSTON, AND COMPANY, Fetter-lane, Fleet-street, London.
Homburg and its Waters, with articles on Obesity, Gout, Weak Heart, &c. By N. E. Yorke-Davies, L.R.C.P. Lond. 1897.
Twentieth Century Practice. Edited by T. L. Stedman, M.D. In twenty volumes. Volume IX.
Diseases of the Digestive Organs. 1897.

SIMPKIN, MARSHALL, HAMILTON, AND CO., London.
The A B C of the X Rays. By W. H. Meadowcroft. Illustrated. Price 4s.

STEVENS AND SONS, Chancery-lane, London.
Monopolies by Patents, and the Statutable Remedies Available to the Public. By J. W. Gordon, Barrister-at-Law. 1897. Price 18s.

SWAN SONNENSCHEIN AND CO., Paternoster-square, London.
A Bibliography of Medicine, being the sections relating to that subject in the best books and the reader's guide. By W. Swan Sonnenschein. 1897.

THE EDWARDS AND DOCKER COMPANY, Philadelphia.
The Eye as an Aid in General Diagnosis. By E. H. Linnell, M.D. 1897.

THE OFFICE OF "THE VEGETARIAN," Farringdon-street, London, E.C.
Tuberculosis; or, Flesh-eating a Cause of Consumption. By Josiah Oldfield, M.A., B.C.L., Barrister-at-Law. Second Edition. 1897. Price 6d.

THE REBMAN PUBLISHING COMPANY, Adam-street, Strand, London.
Rheumatism, and its Treatment by the Use of the Percusso-punctator. By J. Brindley James, M.R.C.S.E. Second Edition. 1897.
The Diseases of Women. By J. Bland Sutton, F.R.C.S. Eng., and A. R. Giles, M.D., B.Sc. Lond., F.R.C.S. Edin. Illustrated. 1897. Price 14s.

WRIGHT, JOHN, AND CO., Bristol.
Our Baby: For Mothers and Nurses. By Mrs. Langton Hewer. Fifth Edition. 1897.

Pauper Children: an Open Letter on the Care and Control of London Pauper Children (P. S. King and Son, King-street, Westminster, 1897); price 6d.—Handy Newspaper List, 1897 (C. and E. Layton, 56, Farringdon-street, London, E.C.); price 6d.—The Great Eastern Railway Company's Tourist Guide to the Continent: edited by Percy Lindley, Illustrated, and with Maps, 1897 (published at 30, Fleet-street and 2, Cockspur-street, London); price 6d.—Illustrated Catalogue of the Instruments, Appliances, and Fittings used in Surgery and Medicine, with an Appendix (Brady and Martin, Newcastle-upon-Tyne), 1897. — Proceedings of the Society for Psychical Research, July, 1897 (Kegan Paul, Trench, Trübner, and Co., Charing-cross-road, London, W.C., 1897); price 3s. 6d.—A Critical Period in the Development of the Horse: by J. C. Ewart, M.D., F.R.S. (Adam and Charles Black, London, 1897).—Magazines, &c., for September: Strand Magazine, Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Sunday Hours, Ludgate Magazine, Westminster Review, Contemporary Review, Friendly Greetings, Chapman's Magazine, Myra's Journal, Pall Mall Magazine, Windsor Magazine, Cornhill Magazine, Blackwood's Magazine, Pearson's Magazine, English Illustrated Magazine, Knowledge, and Humanitarian.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

ADAMS, WILLIAM FRANCIS, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Senior Assistant Medical Officer to the Cornwall County Lunatic Asylum, at Bodmin.

BARNES, JOSEPH M., M.B., Ch.M. Aberd., has been appointed a Public Vaccinator at Kuaotunu, New Zealand.

BRABENT, R. H. W. H., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Lee and Blackheath Divisions of the Post Office, vice R. Clarke.

CHASSON, H., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Medical Officer for Taroom, Queensland.

CLOWES, ERNEST FRANCIS, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon to the Royal Hants County Hospital, Winchester.

COCKILL, T. T., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Honorary Physician to the North Staffordshire Infirmary, vice S. K. Alcock.

COVENTRY, C., M.B., B.Ch. Vict., L.R.C.P. Lond., M.R.C.S., has been appointed an Assistant Physician to the Public Hospital, Perth, Western Australia.

COWEN, A., M.B., Ch.B. Melb., has been appointed Officer of Health for Bulu-Bulu Shire, Victoria, Australia, vice R. Smith.

CROSBIE, RICHARD P., M.B., B.S. Irel., has been appointed Extern Surgeon to the Cork South Infirmary, vice N. H. Runciman, resigned.

CROWE, G. E., M.D., B.Ch. Dub., has been appointed Medical Officer for the Second Sanitary District of the Chorlton Union, vice A. H. Guest, deceased.

ECCLES, J. H., L.R.C.S. Irel., has been appointed Officer of Health for Newstead Shire, Victoria, Australia, and Public Vaccinator at Newstead.

EMMS, H. ROBERT, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed House Surgeon and Secretary to the Dispensary, Stourbridge, Worcestershire.

EWING, B. GEO., M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Ardsley East and West Urban District Council.

FENTON, W. R., B.A., M.B. Dub., has been appointed Police Surgeon at Salisbury, Mashonaland.

FERGUSON, BRUCE R., M.A., M.D. Cantab., has been appointed Surgeon to the Y Division of Police at New Southgate.

FLINT, F. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator for South Australia.

FULLERTON, R. J., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator and Officer of Health at Birchip, Victoria, Australia.

GARDINER, J. M., M.B., Ch.B. Melb., has been appointed an Assistant Surgeon at the Women's Hospital, Melbourne, Australia.

GIBSON, T., M.B., C.M. Edin., has been appointed Resident Assistant Medical Officer for the Workhouse of the Birkenhead Union.

GOODE, E. J., L.K.Q.C.P., L.R.C.S. Irel., has been appointed a Public Vaccinator for the District of Waitara, New Zealand.

GORING, CHARLES, M.R.C.S., L.R.C.P. Lond., has been appointed Senior House Physician to the Great Northern Central Hospital, London.

HANNAY, MARY B., M.B., C.M., Glasg., has been appointed Medical Officer for the Islands of Flotta and Fara, Orkneys.

HARTLEY, J., M.B., Ch.B. Vict., has been appointed Senior House Surgeon to Ancoats Hospital, Manchester.

HARVEY, A. G., M.B., B.S. Camb., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed a Public Vaccinator for the District of Patea, New Zealand.

HEDLEY, CHAS., M.B., Ch.B. Melb., has been appointed a Member of the Public School Board for the Sub district of Gratton, New South Wales.

HIRST, W., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Howden Sanitary District of the Auckland Union, vice W. R. Tough, resigned.

HOGGAN, B. B., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator at Strathmerton, Victoria, Australia.

JOHNSTON, JAS. C., M.B., Ch.M. Edin., has been appointed a Medical Officer at Port Phillip Heads, Victoria, Australia.

MCWILLIAMS, G. P., M.B., Ch.B. Melb., has been appointed a Physician to the Public Hospital, Perth, Western Australia.

MURRAY, G. L., M.B., M.Ch. Syd., has been appointed a Government Medical Officer and Vaccinator for the district of Bingara, New South Wales.

NAIRN, ROBERT, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed a Public Vaccinator at Hastings, New Zealand.

NEWTON, R. E., M.B., C.M. Glasg., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Franshaw Sanitary District of the Mitford and Launcelich Union, vice M. G. Dundas, resigned.

NICHOLSON, F. D., M.B., C.M. Edin., has been appointed Medical Officer for the Bolton-upon-Dearne Sanitary District of the Doncaster Union.

O'CONNOR, M., M.B., Ch.B. Dub., has been appointed Senior Physician to the Public Hospital, Perth, Western Australia.

OVEREND, E. K., M.B. Melb., has been appointed a Public Vaccinator at Brunswick, Victoria, Australia.

PRAAGST, L. F., M.B., Ch.B. Melb., has been appointed Officer of Health for the Town of Brighton, Victoria, Australia.

RAU, SRINIVASA M., M.A., M.B., C.M. and B.Sc. Edin., has been appointed Chemical Examiner and Bacteriologist to the Government of Mysore, India.

STEPHEN, G., M.B., M.S. Aberd., has been appointed Medical Officer for the West Auckland Sanitary District of the Auckland Union, vice R. J. Nevin, deceased.

SWEETEN, BENJAMIN, M.B., C.M. Edin., has been appointed Medical Officer for the Mexborough Sanitary District of the Doncaster Union.

SYMES, J. O., M.D. Lond., D.P.H., has been appointed Honorary Bacteriologist to the Bristol Royal Infirmary.

TURNER, WILLIAM, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed an Assistant Surgeon to the Westminster Hospital.

WILKIN, R. A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the No. 3 Sanitary District of the Newmarket Union, vice T. Kerry, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATH ROYAL UNITED HOSPITAL.—House Surgeon, for one year. Salary £60, with board, lodging, and washing.

BELGRAVE HOSPITAL FOR CHILDREN, 77, Gloucester-street, London.—House Surgeon for six months. Board, lodging, &c., provided.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants for six months. Apartments, complete board, and washing provided.

COUNTY ASYLUM, Prestwich, Manchester.—Pathologist and Assistant Medical Officer. Salary £200 per annum, with board, residence and washing.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, and washing.

HOSPITAL FOR WOMEN, Soho-square, London.—Assistant House Physician, non-resident, for three months.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £40 per annum, with board, lodging, and washing.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL, Manchester.—Resident House Surgeon. Honorarium at the rate of £50 per annum and board.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon. All for six months. Salary of House Physician and House Surgeon each at the rate of £40 a year, and of the Assistant House Physician and Assistant House Surgeon each at the rate of £20 a year.

ROYAL SOUTH HANTS INFIRMARY, Southampton.—House Surgeon. Salary £100 per annum, with board and lodging.

SALOP INFIRMARY, Shrewsbury.—House Surgeon. Salary £100 per annum, with board and residence.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House Surgeon for a period of six months (renewable for a further similar period). Board, residence, and an honorarium of £10.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, Spring-gardens, North Shields.—Resident House Surgeon. Salary £120 per annum, of which £25 per year will be required to be paid to the Infirmary Committee for board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

AMBLER.—On Aug. 24th, at Ampthill, the wife of Richard Ambler, L.R.C.P., of a son.

ANDREWES.—On Aug. 28th, at Highwood, Hampstead-lane, Highgate, N., the wife of F. W. Andrewes, M.D., of a daughter.

BATTERHAM.—On Aug. 28th, at Bank House, Grand Parade, St. Leonard's-on-Sea, the wife of J. W. Batterham, M.B., F.R.C.S., of a daughter.

CASTLE.—On Aug. 24th, at Holly House, Darfield, Yorks, the wife of R. Feild Castle, M.B., of a son.

HICKMAN.—On Aug. 17th, at Bienheim-gardens, Willesden green, the wife of H. R. Belcher Hickman, M.B., Harley-street, of a son.

HUGHES.—On Aug. 29th, at Melrose, Moorfield-road, West Didsbury, the wife of Geoffrey Hughes, L.D.S. Eng., of a daughter.

HUNTER.—On Aug. 25th, at Abbey Mount, Cork, the wife of Surgeon-Major G. Douglas Hunter, A.M.S., of a son, who only survived his birth two hours.

MERRY.—On Aug. 27th, at 1, Cleveland-square, Hyde Park, W., the wife of William J. C. Merry, M.D., of a daughter.

PEARCE.—On Aug. 31st, at Springfield, Salcombe, South Devon, the wife of Arthur Pearce, M.R.C.S. Eng., of a daughter.

SELBY.—On Aug. 31st, at 20, South Parade, Doncaster, Edith, wife of E. W. Selby, M.D., B.S. Lond., F.R.C.S. Eng., of a son.

WORNUM.—On Aug. 27th, at College-terrace, Fitzjohn's avenue, N.W., the wife of George Porter Wornum, M.R.C.S. Eng., of a son.

MARRIAGES.

BARNES—HOLLIST.—On Aug. 26th, at Lodsworth, H. C. Barnes, M.R.C.S., L.R.C.P., youngest son of J. Barnes, J.P., of Tiverton, to Lilian Capron, second daughter of Lieutenant-Colonel Hollist, of Lodsworth, Sussex.

HILL—WOODS.—On Aug. 24th, at St. Giles's Church, Northampton, Ernest Gardiner Hill, M.R.C.S., L.R.C.P., only son of James Robert Hill, M.R.C.S., L.R.C.P., of Parson's green, Fulham, to Mary, youngest daughter of the late John Woods, of Chapel Brampton Grange.

LOGAN—DOUGLAS.—At Free Church of Scotland, Scone, on Aug. 25th, by the Rev. A. K. McMurchy, M.A., James Logan, youngest son of the late James Logan, of Green Vale, Kelso, N.Z., to May, eldest daughter of T. Kennedy Douglas, M.B., C.M., Scone, N.B., and formerly of Tapanui, N.Z.

SAUNDERS—ROLFE.—On Aug. 28th, at All Saints', South Lynn, Allan Lindsey Saunders, M.R.C.S. Eng., L.R.C.P. Lond., of The Limes, Grimston, King's Lynn, to Katie Winifred, only surviving daughter of John Jex Rolfe, of King's Lynn.

SURRIDGE—BIRTWELL.—On Aug. 31st, at St. Elizabeth's Church, Ashley, Edward Ernest North Surridge, B.A., M.B., B.C. Cantab., of Knutsford, to Edith Winifredie, eldest daughter of the Rev. Geoffrey Birtwell, B.A., Vicar of Ashley, Cheshire.

DEATHS.

GARMAN.—On Aug. 25th, at 159, Bow-road, E., Henry Vincent Garman, M.R.C.S., aged 75 years.

HALL.—On Aug. 30th, at 75, Landsdown-place, Brighton, Alfred Hall, M.D., F.R.C.P. Lond., aged 85 years.

HARLE.—On Aug. 23rd, suddenly, at his residence, Danbury-street, Islington, Thomas William Harle, M.R.C.S., L.S.A., and L.M., in his 78th year.

HICKS.—On Aug. 28th, at The Brackens, Lymington, Hants, John Braxton Hicks, F.R.S., F.L.S., M.D. Lond., F.R.C.P., second son of Edward Hicks, Esq., J.P.

HODGSON.—On Aug. 29th, at Green-street, Darwen, Thomas Moore Hodgson, M.B., Surgeon, aged 36 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 2nd, 1897.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb	Remarks at 8.30 A.M.
Aug. 27	29·78	W.	...	118	71	57	57	61	Fine
,, 28	29·91	S.W.	...	116	72	56	60	64	Cloudy
,, 29	29·81	S.W.	0·21	98	68	55	60	64	Cloudy
,, 30	29·68	W.	0·29	118	72	58	58	61	Cloudy
,, 31	29·67	S.W.	0·55	118	68	51	57	60	Cloudy
Sept. 1	29·79	S.W.	0·40	75	62	54	56	58	Cloudy
,, 2	29·48	S.W.	...	107	67	57	57	61	Squally

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. I. of 1897, which was completed with the issue of June 26th, was given in THE LANCET of July 3rd. It is intended, in future, to include the Index and Title-page for each past half-yearly volume in the first number of the succeeding volume, as in the present case, instead of in the last number of the volume itself, as heretofore.

VOLUMES AND CASES.

VOLUMES for the first half of the year 1897 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

THE TAXING OF MEDICAL MEN IN AMERICA.

IT seems that in some of the States of the American Union medical men have to pay a tax for practising their profession. The *Virginia Medical Semi-Monthly* says that the State of Virginia has been charging for the past ten years or more $25.75 (£5) for the licence of a city medical man who has been in practice five or more years, and for the past two years, in addition to this, the Richmond City Council has imposed the city licence tax varying from $20 (£4) to $75 (£15), according to the income received, a medical man of average prominence having to pay from $40 to $60 (from £8 to £12) a year.

"SAVE US FROM OUR FRIENDS."

SOME indiscreet friend of Sir William MacCormac seems to have the use of the *Cambria Daily Leader*, and draws a melancholy picture of Harley-street without the President of the Royal College of Surgeons. "Sir William has been presented to the Czar, a distinction reserved for only a few of the Conference, which numbers 6000 members. The President of the Royal College, however, is a man who has attained his position by sheer merit, and remains the same plain hard-worker, whatever the courtly honours he receives." Then follows an account of the President's dog and its place in its master's consulting-room. Such accounts are presumably meant to entertain the readers of our Cambrian contemporary in this very dull season, and soothe the crowds of *malades imaginaires* who will have no deputy and sigh for the return of Sir William MacCormac and other distinguished consultants.

Mr. N. Hay Forbes.—We do not think that there is one. "Bellows' French Dictionary" (Trübner and Co.) contains a great many medical and scientific terms and would be found useful.

"KISSING THE BOOK."

THE *Maryland Medical Journal* states that a sanitary Bible bound in celluloid which can be washed has been introduced into some courts.

Medicus.—Experience shows that the rheumatic and bronchial patients who winter in Ilfracombe derive much benefit. The temperature is equable without the humidity found in South Devon. The air is moderately bracing and sheltered from the east. The chief feature about the climate is the rapidity with which the roads dry after rain, the subsoil being of a porous and friable shale, which readily admits of the rapid percolation of surface water.

INCOME-TAX OVERCHARGES.

To the Editors of THE LANCET.

SIRS,—The interest which has been aroused in regard to income-tax by the correspondence in the *Times* and the articles which have appeared in a large number of other metropolitan and provincial papers has resulted in calling attention to many grievances which taxpayers suffer, but there is one practice of the Inland Revenue authorities which we think is quite unjustifiable, and which seems to have been overlooked. The practice referred to is that of sending to traders and others at this period of the year a blue notice of charge, showing an assessment of profits at £160 and allowing the whole by way of abatement, no tax being demanded in respect of the business profits. Of course, where those who receive such notices have no income from any source other than their business no injustice is done; but in the case of such as have income from other sources from which tax has already been deducted the effect is to bar their right to claim repayment, unless the assessment of the business profits be appealed against, the full abatement having already been allowed. It is, therefore, of the utmost importance that those of your readers who are now receiving notices of charge for the year 1897–98 should, if the amount at which they are assessed is greater than the average of their profits for the three years ending April 5th, 1897 (or at such prior date as they usually make up their accounts), at once give notice of appeal in accordance with the instructions on the notice of charge. Moreover, if they find that the profits of the three years named show an average profit less than the amount upon which they paid tax for 1896–97, they should give notice of appeal in respect of that year also, and claim repayment of the amount overpaid. There is no time to lose in business appeals, as this class of claim for repayment should have been made before now; while a claim to set off a loss in farming or business against income from other sources must be lodged before Oct. 6th next. Many people are now entitled to make a claim on one ground or another for three years to April 5th last.

We are, Sirs, yours faithfully,

THE INCOME-TAX ADJUSTMENT AGENCY.

12 and 13, Poultry, London, E.C., Sept. 1st, 1897.

Mr. J. M. B. Atkinson (Shrewsbury).—No very extended account of trional has appeared. A case of urobilinuria following its use was reported in THE LANCET of March 27th, 1897. If our correspondent applies to the agency for Bayer's drugs (The Elberfeld Farbenfabriken Co., 19, St. Dunstan's-hill, E.C.) he will probably be supplied with literature on the subject.

AN UNSEEMLY ADVERTISEMENT.

A CORRESPONDENT has sent us the following cutting from the *Portsmouth Evening News* of Aug. 27th:—

NOTICE.—Dr. Raitt has removed from Outram-road to more central and convenient premises, 38, St. Andrew's-road (corner of Margate-road). From 2 till 3: Private patients and engagements only.

Dr. Raitt should know that if he wishes to intimate a change of address to his patients this is not the way to do it.

SHARKS IN THE ADRIATIC.

EVER since the opening of the Suez Canal, thirty years ago, by which the Indian Ocean has been connected with the Mediterranean, sharks have increased in the latter sea. They follow the P. and O. liners, whose course involves touching at Brindisi, Ancona, and finally Venice. Some years of excessive sultriness have witnessed these unwelcome visitors in great force, particularly off the Adriatic watering-places. One of these, Sinigaglia—the bright, clean town so frequented for midsummer sea-bathing, celebrated, moreover, as the birthplace of Pius IX.—has suffered disastrously from the scare caused by the capture of several formidable sharks quite close to the land. In fact, the development of the place as a seaside resort in the dog-days has been appreciably affected by the gruesome monsters in question. From Ancona comes the announcement that recently a male shark, 1 metre 20 cm. long, its open mouth 48 cm. in length, was caught, not without difficulty, by some fishermen, who previously to its capture thrust between its jaws a "voliga" (a thick piece of wood the length of a walking-stick), which it instantaneously reduced to matches. Now this shark had doubtless a female consort in attendance—they seldom travel alone, and when not in shoals are almost invariably in couples—the wanderings of which in search of the missing spouse must keep the whole seaboard in alarm. At Venice the famous bathing ground known as the Lido is at this season frequented by thousands of visitors, including many of our compatriots *en route* to or from Egypt, India, or the Antipodes, and it is not without reason that the Venetian and Emilian journals sound a note of warning as to the danger of deep-sea bathing with the aforesaid "widowed cruiser" patrolling their waters. If the "midsummer nightmare" caused by these voracious privateers continues the Adriatic municipalities will have to offer a prize for each one captured, as in India a reward is given for the killing of snakes.

Vigilo et Spero.—We should gladly insert our correspondent's letter if we thought its insertion would do either him or others good. But we doubt this. His case is, we think, if not unique, very rare, and could scarcely be made the ground of an argument. We sincerely trust that his remaining powers and energy will ere long find fit and congenial employment.

"A VEILED NOMENCLATURE."

To the Editors of THE LANCET.

SIRS,—I think it will be an advantage if the next edition of the British Pharmacopœia contains synonyms for the drugs in common use. Medical men are constantly having their prescriptions commented on by their patients because the names of the drugs prescribed are so palpable. At present I am treating a lady who insists on seeing every prescription and on knowing every ingredient used. She has quoted to me from memory what Sir Russell Reynolds gave her; and on seeing a "spray" on her table which I inquired about she informed me that it contained cocaine, glycerine, &c., and was prescribed by Mr. So-and-so. On my writing, a prescription containing ammonium bromide and chloroform water she at once commented on these drugs, and I felt how desirable a "veiled nomenclature," if I may use the expression, would be for such patients.

I am, Sirs, yours faithfully,

Sept. 1st, 1897. M.D.

Mr. Owen Williams (Glandovey).—The statements of the writer of the letter forwarded to us have been exposed and contradicted over and over again.

PULQUE AS AN ANTI-SCORBUTIC.

DR. C. E. IDE, of Buffalo, writing in the *Philadelphia Polyclinic*, recommends pulque, a Mexican drink made from the juice of the Agave Americana, as an efficient prophylactic and remedy for scurvy. The juice of this plant was first employed in the treatment of scurvy by Dr. Peres, of the United States Army, and was considered by him to be superior to all other anti-scorbutics. Pulque is, according to Dr. Lobato, of Mexico, an acid wine, unrectified, produced by fermentation in aguamiel, the juice of the maguey or Agave Americana. This liquor is a familiar drink among the Mexicans and varies according to the region from which the plants are obtained, the best being that which comes from points on the Mesa Central Railroad—namely, from the plains of Apam, Tlaxcala, and Puebla. The aguamiel (juice) is obtained by scraping the maguey. It is a yellowish-white liquor, slightly viscid, with an agreeably sweet taste, and an aromatic smell due to an essential oil. It ferments spontaneously after a few hours' exposure to the air at from 18° to 20° C., developing alcohol; if the fermentation be not checked, acetic acid and, later, lactic acid are formed; finally putrefactive changes occur. Pulque can be administered almost *ad libitum*; it is not easily preserved for a long time, except by the aid of antiseptics.

THE MENTAL AFFECTIONS OF CHILDREN.

WE have pleasure in publishing the following notice:—

"Twenty years have passed since my book on 'Idiocy and Imbecility' appeared. I now desire to bring out a comprehensive treatise exposing my more mature views, gathering up scattered papers, and giving the outcome of the latest scientific inquiry. If I were assured of Two Hundred Subscribers I could, without risk of pecuniary loss, bring out a work on 'The Mental Affections of Children—Idiocy, Imbecility, and Insanity.' The book would contain about 300 pages, octavo, with illustrations, price to subscribers 8s. on delivery.

"I hope that those who make a study of neurology, insanity, and psychology, or take a kindly interest in the training of imbeciles, will help by subscribing for copies, which may be done by filling up a form which will be supplied on application to me.

"WILLIAM W. IRELAND.

"Mavisbush House, Polton, Midlothian."

Mr. H. T. Hamilton.—There are various formulæ which our correspondent will find in books of receipts—e.g., Cooley's Handbook.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (6th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

TUESDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY (8th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.).

THURSDAY (9th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.).

FRIDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

SATURDAY (11th).—Royal Free (9 A.M. and 2 P.M.), Middlesex, (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Surrey Advertiser, Bristol Mercury, Public Health, Engineer, Weekly Free Press and Aberdeen Herald, Ardrossan and Saltcoats Herald, Reading Mercury, Local Government Chronicle, Leeds Mercury, Midland Free Press, Scottish Guardian, Brighton Gazette, Yorkshire Post, Clifton Chronicle, Hertfordshire Mercury, Liverpool Daily Post, Local Government Journal, Architect, Times of India, Pioneer Mail, Builder, City Press, Scotsman, England, North British Mail, Dundee Advertiser, Manchester Guardian, Glasgow Herald, Devon Gazette, South Wales Daily News, Sheffield Independent, Birmingham Post, Newcastle Leader, Kenilworth Advertiser, Wolverhampton Chronicle, Norwich Mercury, Eastern Morning News, Derby Daily Telegraph, Lancashire Daily Express, Burton Chronicle, Devizes Gazette, Leek News, Cornish Telegraph, New York Herald, Sussex Daily News, Bradford Observer, Hemel Hempstead Gazette, Leicester Post, Hull Daily News, Gillingham Weekly Record, Newark Advertiser, Coventry Times, Northern Ensign, Loughborough Monitor, Jersey Express, Educational Times, Accrington Division Gazette, Le Temps, Weekly Gazette (Montreal), Mid-Ulster Mail, Rangoon Gazette, West Yorkshire Pioneer, Australasian Medical Gazette, Huddersfield Examiner, Ulster Gazette, West Middlesex Herald, La Gaceta (San José), Boletin Judicial (San José), &c., &c.*

Communications, Letters, &c., have been received from—

A.—Mons. F. Alcan, Paris; Messrs. Allen and Hanburys, Lond.; Mr. R. Aitken, Huntley; Abstainer, Lond.; *African Critic*, Lond., Editor of.

B.—Mr. W. Banks, Bolton; Dr. J. Blumfeld, Lond.; Commander G. Blakeley, R.N., Boscombe; Dr. Marcel Baudouin, Paris; Mr. W. Foster Brown, Montreal; Berwick (N.S.) Post Office, Postmaster of; Messrs. Burgoyne, Burbidges, and Co., Lond.; Dr. A. Bouillon, Matane, P.Q., Canada; Blackburn and East Lancashire Infirmary, Secretary of; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. A. Bishop and Sons, Lond.; Bath Royal United Hospital, Secretary of; Mr. H. Brown, Buckhurst Hill; Mr. C. Birchall, Liverpool; Messrs. Baiss Bros. and Co., Lond.

C.—Dr. J. A. Cutter, New York; J. C., Leeds; Church Sanitary Association, Hon. Secretary of; Dr. J. J. Clarke, Lond.; Mr. J. Cavargna, Birmingham; Dr. J. S. Clayton, Accrington; Mr. F. Clink, Lowestoft; Messrs. A. H. Cox and Co., Brighton; City of Coventry, Town Clerk of; Mr. A. C. Champati, Krishnaggar, India; Mrs. Chapman, Lond.; Comaltana Wine Co, Heckmondwike; Dr. W. H. B. Crockwell, Manchester; Mr. George Culver, Lond.

D.—Messrs. J. Dewar and Sons, Lond.; Devon, Lond.; Derrick Advertising Agency, Lond.; Doctor, Bootle.

E.—Messrs. Eason and Son, Dublin; Esmond Cycle Saddle Co., Lond.

F.—Messrs. Ferris and Co., Bristol; Mr. F. Floyd, Kilkeel; F. J., Lond.; Mr. R. Foskett, Lond.

G.—Dr. Jules Glover, Paris; Mr. W. H. Garner, Clonmel; General Apothecaries Co., Lond.; Golf, Lond.; Mr. R. P. Gemmell, Glasgow; Messrs. Glaisyer and Kemp, Brighton; General Press Cutting Association, Lond.; Glasgow Eye Infirmary, Secretary of; Glasgow Western Infirmary, Secretary of.

H.—Dr. M. C. Hime, Buncrana; Mr. F. S. Hicks, Lond.; Mr. J. Heywood, Manchester; Mr. J. C. R. Husband, Ripon.

I.—Dr. Impey, Cape Town; Income Tax Adjustment Agency, Lond.

K.—Mr. T. H. Knott, Chatham; Kollox Wine Co., Lond.; Messrs. Keith and Co., Edinburgh.

L.—Professor C. Lombroso, Moscow; Mr. J. A. Lillington, Winfrith; Locum, Staple Hill; Messrs. Lee and Nightingale, Liverpool; Dr. J. F. Little, Lond.

M.—Mr. C. J. Maydew, Minster; Meadow Sweet Cheese Co., Birmingham; Medical Society of Victoria, Melbourne, Hon. Secretary of; Male and Female Nurses' Association, Lond., Secretary of; *Midland Counties Herald*, Office of, Birmingham; Mrs. Millard, Hitching; Mrs. G. Mesnard, Sunderland; Manchester Southern Hospital, Secretary of.

N.—Norfolk, Lond.

O.—Mr. J. P. O'Connell, Keighley; Messrs. Orridge and Co., Lond.

P.—Mr. A. D. Pithie, Lymington; Mr. Y. J. Pentland, Edinburgh.

R.—Mr. A. Rollason, Dudley; Messrs. Robertson and Scott, Edinburgh; Messrs. Reynell and Son, Lond.

S.—Dr. C. F. Smith, St. Mary's, Ontario; Sanitas Co., Lond.; Supremus, Lond.; Messrs. Street and Co., Lond.

T.—Dr. F. W. Thurnam, Lond.; Dr. A. S. Tayler, Surbiton; Tynemouth Infirmary, North Shields, Secretary of; Tanocea Tablet Co., Newton Longville.

V.—Baroness Von Medem, Florence.

W.—Dr. A. W. Williams, Edinburgh; Dr. Williams, Edinburgh; Dr. J. K. Watson, Lond.; Messrs. Wyckoff, Seamans, and Benedict, Lond.; Mr. Wm. Whiteley, Lond.; Mr. F. Wilson, Lond.

Y.—Mr. E. W. Young, Eastbourne; Yorkshire, Lond.; Yorkshire College, Leeds, Registrar of.

Letters, each with enclosure, are also acknowledged from—

A.—Mr. J. M. B. Atkinson, Shrewsbury; Dr. W. D. Anderson, Ballachulish; Ancoats Hospital, Manchester, Secretary of; Messrs. Arbuthnot and Co., Lond; Dr. A. G. Auld, Thurso; A. R. K., Lond.

B.—Mr. R. W. Branthwaite, Rickmansworth; Messrs. Brady and Martin, Newcastle-on-Tyne; Mr. C. R. H. Ball, Cambridge; Barony Parish Council, Glasgow, Clerk of; Miss E. F. Boultbee, Lond.; Birmingham City Asylum, Clerk of; Mr. F. Bagger, Lond.; Mr. T. Brayton, Hindley; Dr. R. W. Baxter, Bromley; Dr. D. Beatson, Coldred; Mr. W. Brice, Edinburgh; Breeson, Norwich; Birmingham and Midland Ear and Throat Hospital, Secretary of; Mr. J. P. Balbirnie, Staveley; Mr. W. H. Boger, Fowey; Beta, Lond.; Bank of Africa, Lond.

C.—Messrs. Clarke, Son, and Platt, Lond.; Chemische Fabrik in Halfenberg; Mr. J. Carter, Lond.; Mrs. R. Crawley, Lond.; Mr. R. H. Cox, Shanghai; Mr. A. M. Cato, Lond.; Comet, Lond.; Confidence, Lond.

D.—Mr. T. F. Dillon, Rhos; D. P. H., Lond.

E.—Mr. R. Eyton-Jones, Llangefni.

F.—Mr. L. Foster, York; F., Lond.; Mr. P. R. Fort, Horsley.

G.—Messrs. Giles, Schacht, and Co., Clifton; Galen, Lond.; Dr. J. Gillan, Eston; Messrs. W. Gaymer and Son, Attleborough.

H.—Mr. A. B. Heyward, Kenninghall; Hew, Lond.; Mr. J. Hellawell, Manchester; Messrs. Harrison, Ballantyne, and Co., Salford; Mr. H. Hyde, Edinburgh; Messrs. Hooper and Co., Lond.; Mr. F. H. Harris, Great Yarmouth; Messrs. C. J. Hewlett and Son, Lond.; Herbert, Southampton; H., Lond.

I.—Instanter, Lond.; Isis, Lond.; Ipecac, Lond.

J.—Dr. H. B. Jones, Lond.; Dr. C. H. L. Johnston, St. John, N.B.; J. K. G., Lond.; Junior, Lond.; Dr. Jeans, Crowborough Cross; Johnson, Lond.

K.—Dr. L. Kidd, Enniskillen.

L.—Mrs. A. Luxmore, Ramsgate; L. D., Lond.; Locum Tenens, Goole; Lambda, Lond.; Locum, Eastleigh.

M.—Mr. J. W. Moody, Crewe; Mr. S. Mackey, Hodnet; Malto, Ltd., Lond.; Messrs. Moser and Sons, Kendal; Messrs. J. and C. Most, Stafford; Maltine Manufacturing Co., Lond.; Dr. A. W. Miller, Lond.; Medicus, Lond.; Mona, Lond; Meddyg, Lond.; Medicus, Stamford Hill; Matrix, Lond.

N.—Mr. W. J. Nicholls, Swaythling.

O.—Ozone, Lond.; Omega, Lond.; Dr. E. Oliphant, Bucksburn.

P.—Dr. Pooley, Rochdale; Portland Villa, Leamington Spa.

R.—Mr. R. Roberts, Llanddeusant; Mr. H. B. Roberts, Ludlow; Mr. D. Robertson, Perth; Royal Mineral Water Hospital, Bath, Rita, Lond.; Rus in Urbe, Lond.; Mrs. Rutley, Lond.; Rest, Ilfracombe; Dr. G. Richardson, Rhayadr; Messrs. Read and Co., Bristol; Dr. D. Ross, Inverurie; Dr. R. R. Ross, Huelva, Spain.

S.—Dr. J. G. Smith, Bridgend; Sunderland Borough Asylum, Ryhope, Clerk of; Mr. H. E. Stokes, Lond; Dr. Smith, Lond.; Senex, Lond.; Mons. H. le Soudier, Paris; Scotia, Lond.; Secretary, Gillingham; Dr. R. W. Selby, Doncaster; Salus, Lond.; Service, Lond.; Statim, Lond.; Secure, Lond.; Surrey Surgeon, Lond.; Swiss Cottage, Lond.; Suburban, Lond.; Mr. D. Sievwright, Strichen.

T.—Mrs. Thompson, Keswick. T. R., Bristol; T. M. S., Lond.; Tower House Retreat, Westgate-on-Sea; Mr. J. Thin, Edinburgh; Tutor, Lond.

U.—Messrs. Uhthoff and Co., Lond.

V.—Veritas, Lond.

W.—Dr. Williamson, Wye; Mr. T. W. Wilson, Cardiff; Dr. R. A. Williams, Ogmore Vale; Welsh Calvinistic Foreign Missionary Society, Liverpool, Secretary of; West Riding, Lond.; Dr. P. W. Williams, Clifton; Mr. S. Wand, Lond.; W., Lond.; Mr. C. E. Winckworth, Shefford; Dr. J. S. Walker, Banff; W., Brentford; Dr. J. H. Waterhouse, Rotherham.

Y.—Yorkshireman, Lond.

Z.—Messrs. A. and M. Zimmerman, Lond.; Z. Z., Lond.

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The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to Mr. CHARLES GOOD, Manager, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

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